CONCEPTUALISING SUSTAINABLE FUTURE LANDSCAPES:

A case study with communities of the oil and gas exploration Region Nigeria

In fulfilment of the requirements for Degree of
Doctor of Philosophy

Maimuna Lami Saleh-Bala

Faculties of Humanities and Social Sciences
School of Architecture Planning and Landscape
Newcastle University
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Dedication

This thesis is dedicated to the memory of my late father, **Alhaji Abdu Ali** (1942-1995). Who had desired this PhD. but did not live long enough to witness it come true. May Allah grant him *Al Jannatul Firdaus.*

Abstract

The Federal government of Nigeria has undertaken social intervention programmes in the oil and gas exploration Region since 1960 producing an average of one programme each decade to address the underdevelopment of the Region. This underdevelopment appears to be as a result of the devastating effects of the oil spills and gas flaring in the Region. This has affected community wellbeing and connection with the landscape as over 94% are small communities in rural landscapes. The result is loss of livelihood, social disintegration and disruption of economic activities locally and nationally. The most recent government intervention programme is the Niger Delta Regional Development Master Plan (NDRDMP) of 2006 with the goal of sustainable development of the Region. This thesis therefore aligns with the argument that spatial planning is the critical sector to examine, as the problem of the Niger Delta Region is presently predominantly that of landscape degradation. Landscape planning is essential in planning for sustainability; to improve the quality of the environment at the community level it aspires for quality environments. But what vision should guide landscape planning and the future landscape change of the Region?

A review of the relevant literature indicates that emerging theories view the landscape as a holistic representation of the interaction between human and natural processes and a need for transdisciplinary planning. The thesis supports this view and argues for creating a future landscape vision with the communities who live and work the landscape of the Region. Hence an empirical study of types of communities that define the Region was conducted. Using an interpretivist theoretical perspective and guided by questions posed by the Carl Steinitz Framework Model of 1990 (revised 1995; 2012) a case study approach and a variety of data collection tools appropriate to demographic groupings were employed.

The findings provided insights from an analysis of the narratives of different demographic groups on the community landscape representations. Four landscape types were identified as well as various political and economic impacts on the landscape. Oil and gas exploration activities were seen not always to be the direct driver of the cultural landscape changes. The thesis demonstrated that engaging the community can help to identify the different drivers of landscape change relating to each landscape type examined. It also outlined possible change drivers for future landscapes. An implication for landscape planning is the importance in considering how future landscapes can be effectively conceptualised in a situation where the community landscapes are predominantly small and in rural settings.

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1 Chapter 1: Conceptualising Sustainable Future Landscapes

1.1 Introduction

The Niger Delta Region is the oil and gas exploration Region of Nigeria and as petroleum resources play a leading role in the economy of the nation, the Niger Delta Region is the bedrock of the Nigerian economy. Nigeria has the 10th largest proven reserves of crude oil in the world, and is the 12th largest producer in commercial quantities for export. Petroleum resources therefore account for 40% GDP providing over 90% of governments earning (Idemudia and Ite, 2006; William, 2008; Arieweriokuma, 2009; Idemudia, 2009; Thurber *et al.*, 2010) . However, until the advent of the Boko Haram insurgency less than a decade ago, Nigeria was best known for the environmental degradation of the oil and gas exploration landscape, threatening the communities and their means of livelihood hence provoking social disintegration and disruption of economic activities nationwide.

The Niger Delta is the third largest wetland in the world and the largest swamp ecosystem and river delta in Africa. It is therefore important for the maintenance of biodiversity which according to MEA (2003) is also important in the provisioning, regulating, cultural and supporting services. Hence, the dependent communities around it are provided livelihood, food and water etc. (Adekola and Mitchell, 2011). The Niger Delta Region also produces 55% of the nation's commercial fish species and much other produce (NDDC, 2006).

The challenge of the Region begins with conserving its mostly fragile coastal landscape of 55% fresh water swamps as well as thousands of creeks and a unique settlement pattern. There is a low population density; 94% of which is in small communities in rural landscapes (ibid). This challenge has been compounded by oil spills and gas flaring from the exploration activities, which degrade the environment and provoke social unrest in the Region, particularly among the youths. To end further agitations, government needs to address environmental degradation, socio-economic and cultural concerns and to meet the present and future aspiration of the communities.

1.2 Statement of the Problem

The Efforts to combat underdevelopment and the cry of marginalization in the Niger Delta Region have led to six different Social Intervention Programmes beginning from 1960. The most recent of these Programmes is the Niger Delta Development Commission to span 2006 to 2020. It produced the Niger Delta Regional Development Master Plan (NDDC, 2004; NDDC, 2006) and Sustainable Development is its guiding principle. However, its impact is yet to be felt as is evident from ethnic militias and the rising conflicts in the Region; the most recent being in 2016 led by the Niger Delta Avengers (Ikelegbe, 2006; Omotola, 2007b; Okumagba and Okereka, 2012; Ewokor, 2016). This has prompted several reviews and analysis from different sectors on what could be missing in the programmes (Olukesusi, 2005; Okumagba and Okereka, 2012). Physical planners viewed it as essentially a Regional economic plan and pointed out that it could not possibly meet the objectives of a physical plan as the challenges of the Niger Delta Region was clearly a physical one being the consequence of environment degradation (Nigerian Institute of Town Planners, 2005). The NNDC on the other hand had clearly stated that this present intervention "*was a far cry from traditional land use which focuses on the physical picture of an end-state"* (NDDC, 2006, p. 118). A contrary view articulated by one of the reviewers, Ibeakuzie (2005), pointed to physical planning as the missing piece. This study suggests that landscape planning can play a leading role in the conceptualisation of a more sustainable future landscape and argues for first, creating a vision for future landscape change with the relevant communities.

1.3 Theoretical framework

The theoretical framework to anchor this study is based on landscape planning as understood for being essential in planning for sustainability; it provides a prime foundation for planning degraded landscapes (Ndubisi, 2002; Ahern, 2005) and at community level aspires for liveability and quality environments. Landscape planning has been defined in article 1(f) of the European Landscape Convention (ELC) as a "*means for strong forward-looking action to enhance, restore or create landscapes"* (Council of Europe, 2000). The introduction of the word 'sustainable' in the study arose from the Federal Government's desire to have the Niger Delta

Region guided by sustainable development as spelt out in '*Our Common Future*' (Brundtland *et al.*, 1987).

Visions play a role in conceptualising future landscapes (Steinitz, 2008; Howard and Osborn, 2013). The understandings of 'insiders' and 'outsiders' experience of the landscape, as well as those of professionals are important in considering how landscape is conceptualised (O'Rourke, 2005; Roe and Rowe, 2007; Healey, 2010). This becomes important because as Healey (2015, p. 8) points out with respect to research 'findings', where several different audiences are concerned, the core "*findings may be the same but the relevance of the findings will be different for different audiences…"*. Hence it is important to understand the fine grain of peoples' views. Creating a vision for the future landscapes of the communities in the Niger Delta Region is an essential first step and this research suggests doing this in a transdisciplinary way as described in Tress *et al.* (2006a).

In this study, the substantive theories of landscape and sustainability as well as the understanding of the interaction of people and landscapes are explored.

1.4 Research questions

The aim of this research is to conceptualise future landscapes for the communities in the oil and gas Region. This is by identifying the communities' vision for future landscape and its implication for landscape planning of the Region.

The word 'conceptualise' means developing a concept. While the word concept refers '*to an idea of something formed by mentally combining all its characteristics or particulars. It is therefore a construct'*. (Dictionary.com)

The Research questions are therefore

1) What are the communities' visions for future landscape change?
2) How can these visions play a part in the future sustainable landscape planning of the oil and gas Region of Nigeria?

The research questions are guided by the following sub questions:

a. What are the appropriate approaches for advancing a more sustainable landscape planning for communities in the oil and gas Region?

b. How can a landscape vision be created to play a major part in landscape planning for communities in the oil and gas Region?
c. What are the implications of these landscape visions for the present and future sustainable landscapes of the oil and gas Region?

The first sub-question allows the exploration of approaches, theories and methods of landscape and sustainability, as sustainable development is the goal to guide the development of the Niger Delta Region. The second sub-question explores methodological theories and investigates methods to collect data. This becomes necessary as there appears to be a gap in knowledge on how landscape architects and planners could engage stakeholders in decision making in the planning process. This relates to Thompsons (2005, p. 111) questions:

i. Are landscape professionals as effective as they could be in helping people envision change and in articulating responses to the change?
ii. What methods are appropriate to use?
iii. Are stakeholders readily able to engage in decision-making and the planning process, and are they eager and willing to do so?"

The third sub-question of this research reviews the implication of these landscape visions and gives the basis for analysis and discussion in order to arrive at a concise conclusion.

1.5 Research Setting: Akwa Ibom State

The foreign Commonwealth Office advised against travels to the Niger Delta Region of Nigeria in 2013. It had not sanctioned travel to the Region but designated it as a conflict zone because of persistent unrest and kidnappings (Foreign Commonwealth Office, 2013). This coincided with the time for the fieldwork of this study. Hence the choice of Akwa Ibom State as a research setting was influenced by it being the most peaceful in the exploration Region at the time and which could also address the research aim as well as other ethical concerns. It is also the exploration site of the second largest Multinational Oil Corporation in the Region – Mobil Producing Nigeria.

Akwa Ibom is a young State created in 1987 and one of the nine states in the Niger Delta Region (Figure 1.1). It has 31 local government areas and covers land area of 6806 square kilometres. Akwa Ibom has the third largest population of the Niger Delta Region projected as 4,537,000 in 2015 from about 3,340,000 in 2005 (NDDC, 2004). It was a historic centre for early missionary activities and also had been a prominent trade route for slaves and palm produce to the old city-states of Calabar.

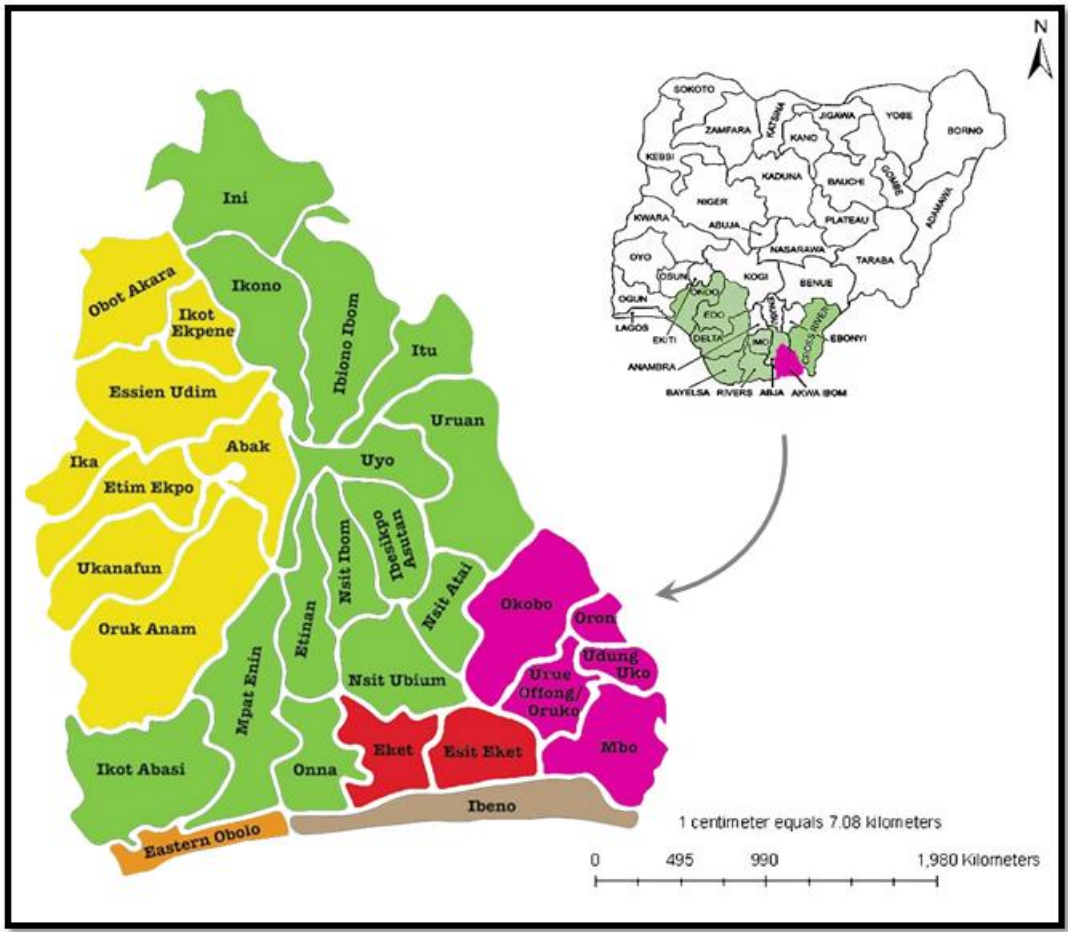


FIGURE 1.1: MAP OF NIGERIA SHOWING THE NIGER DELTA REGION AND AKWA IBOM STATE

Source: Ite *et al.* (2014)

The Climate is generally humid because of its proximity to the sea as well as its location north of the equator in the tropical humid zone. The average temperature is 26^0C to 29^0C and rainfall depending on area is 2000mm to 3000mm. Typical of coastal zones in Nigeria, the area has two seasons: the wet is for about eight to

nine months, beginning from middle of March and the dry season for three months from November. Rain is however expected all year through as a result of exposure to the hot maritime air mass of the coasts (NDDC, 2006). The vegetation and land use of the case study areas also cut across swamps, oil palms, riparian, mangrove, and farmland and mosaic land use (Figure 1.2).

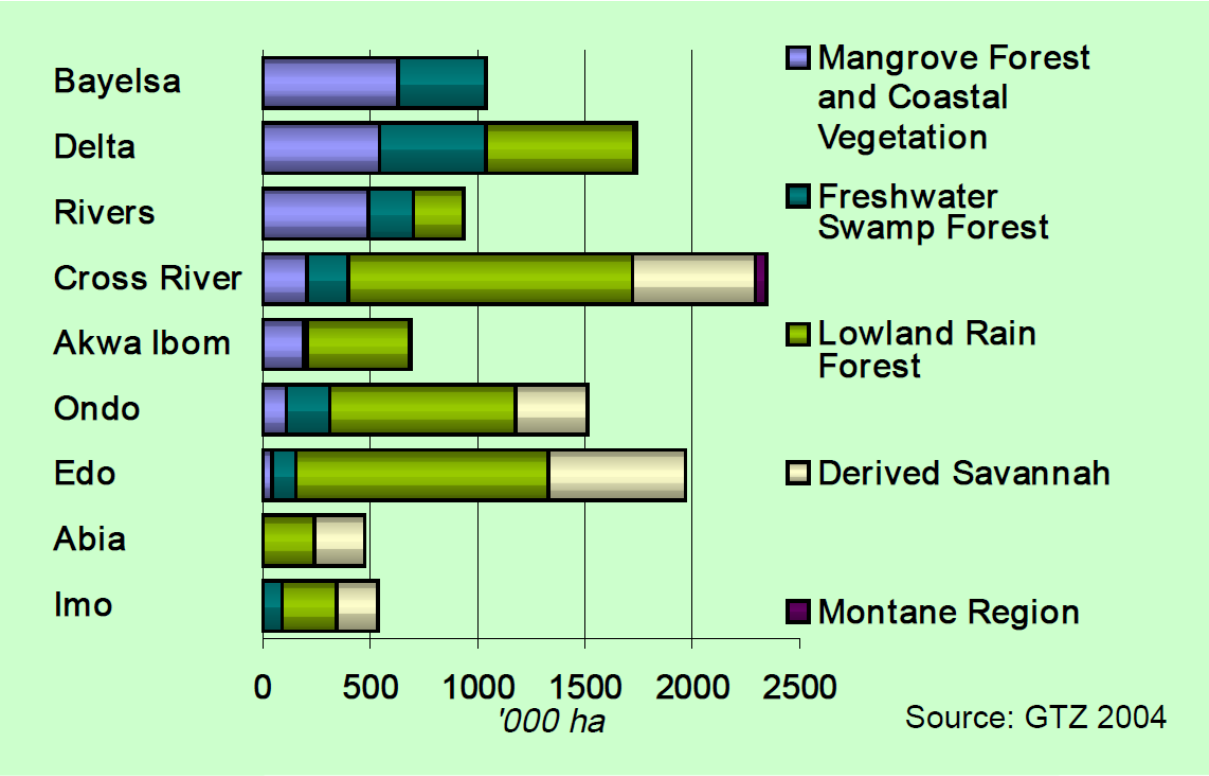


FIGURE 1.2: AREAS OF ECOLOGICAL ZONES BY STATES OF THE NIGER DELTA REGION

Source: NDDC (2006)

The case study communities are Ibeno and Eket and Environs. They are the host communities and are the third group of stakeholders in the Niger Delta Region. The first two stakeholders are the Federal government and the Multinational corporations both of whom hold considerable power in the Region.

Akwa Ibom, as with most States in Nigeria, has a number of minority tribes and hence is ethnically heterogeneous. However communities of Eket and Ibeno can be termed homogeneous because they share much in common in social, cultural and linguistic terms. However they have contested histories and fractured

territories despite their being just 18km apart. This leads to frequent community divisions erupting. Leton (2006) links this to the transformative effect of oil operations.

The case study communities of Ibeno are often referred to as terminal host communities since they are coastal communities and exploration takes place offshore but facilities are located on their territory port or terminal. They claim equal rights with another two groups known as producing host communities[1] and Transit host [2] communities (Idemudia and Ite, 2006). The last two types of host communities are not covered by this research for ethical issues bordering on safety and security at the time of fieldwork for this research in 2013.

The second set of case study communities are those without the oil and gas exploration activities and represent landscapes of 30 of the 31 local government areas in Akwa Ibom State from Eket up north of the state. This second case study area represent all the 20 ethnic languages spoken within the state aside that of Ibeno. The prominent ethnic groups are Ibibio, Annang, Oron, Eket and Mbo (Figure1.3). Ibibio is however the most widely spoken. The state is often called the home of the Ibibio. 'Eket and Environ' will be used generally to identify the second case study communities in this research. Eket was one of the oldest administrative headquarters during the colonial period and has been the administrative headquarters of the multinational oil Corporation Mobil Producing Nigeria (MPN) since its inception in Akwa Ibom State in 1961.

[1] Communities with onshore oil exploration
[2] Communities with pipelines passing through their territory.

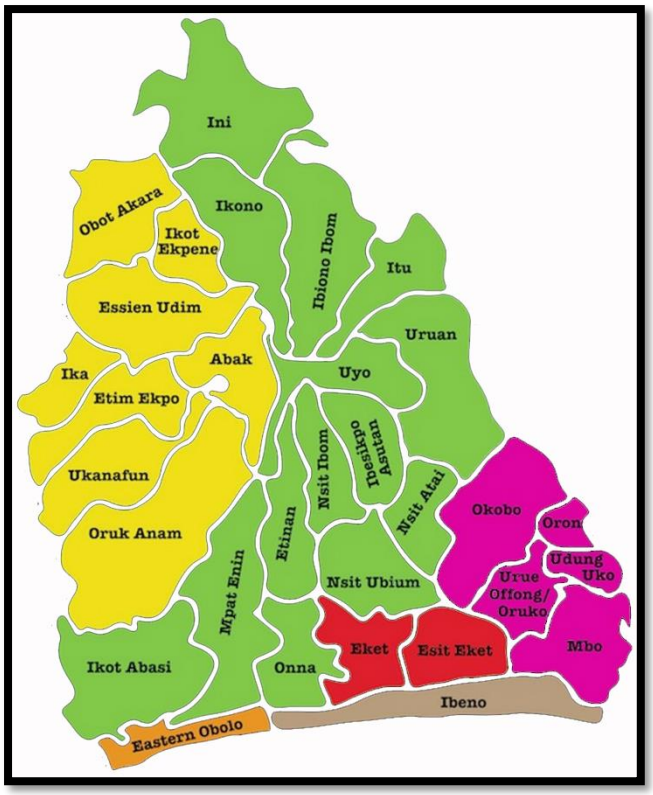


FIGURE 1.3: ETHNIC GROUPS IN AKWA IBOM STATE; IBIBIO (GREEN), ORON (PURPLE), ANNANG (YELLOW), IBENO (BROWN), EKET (RED), ANDONI (ORANGE)

Source: Google Map 2016

1.6 Methodological Approach

The research employs qualitative methods, its ontological position is constructivism and the epistemological position is interpretivism. It employs a case study approach and Akwa Ibom State provides the two categories of sample communities; Ibeno representing communities with oil and gas exploration activities and Eket and Environs providing those without the exploration activities. The sample categorisation is based on demographic groupings so that all age groups are represented. This ensures that the voices of the youth and children are also heard, as they constitute about 50% of the population of the Region (NDDC, 2006). Young people are also highly vocal and volatile, prone to civic unrest and social vices. Interviews are conducted with adults and the older youths as well as focus group discussion. Photo elicitation is used with the children and minors. This method as shown in literature is effective in engaging children to discuss landscapes (Harper, 2002; Pink, 2004; Croghan *et al.*, 2008b; Jorgenson and

Sullivan, 2009; Luttrell Wendy, 2010). A transect walk is employed with the elderly and other members of the community in order to appreciate the landscape as well as comprehend it from the participants' perspectives. The fieldwork questions are guided by questions used on the Framework Model (Steinitz, 1990a; Steinitz, 1995).

1.7 Motivation for the study

The motivation for embarking on this study comes from a number of factors which are:

1. A moral obligation
2. Pioneering landscape education and practice in Nigeria
3. And the question of whether the professional view is always accurate?

These factors are presented in some details below:

a) A moral obligation

Since oil was discovered in commercial quantity for export, petroleum resources have replaced that of agriculture, as the major earner of foreign revenue for the country. Hence the resource has accounted for over 90% of the nation's earnings and this revenue supports the development of all sectors of the Nigerian economy. However, there has been massive damage to the environment as a result of exploration and a dislocation of the communities, their means of livelihood and well-being. My present Scholarship for the PhD being from the Petroleum Technology Development Fund (PTDF), and as a member of the landscape profession, which is just beginning to be recognised in the country, I feel obliged to make any contribution I can to any intervention that will accelerate development of the Region (as well as the Country) and the reconnection of the people to their landscapes.

b) Pioneering landscape education and practice

Landscape Architects are few and the profession is new in Africa and just being introduced to West Africa by Nigeria. As one of the pioneers in this venture, I would want a good grasp of the kind of research that will move our nations forward as well as improve the quality of our environments and consequently impact the well-

being of our people. As one of the pioneer lecturers in Landscape Architecture I believe in the Japanese saying for the advert of their Toyota brand car, that "*Good thinking Good Product*". Hence, I hope to impact positively on my students through a better understanding of the relationship between society and landscape that the study provides.

c) Is professional view always accurate?

While searching for a model or concept to guide sustainable landscape planning for the communities of the Niger Delta Region, endowed with oil and gas but left with a degraded landscape from its exploration, I watched a documentary film 'Vision of the future' (White, 2009). This is about a community in Germany experimenting in environmentally friendly living without living in the Stone Age. Considered the "greenest city" in Germany, Freiburg is a functional city designed with the community and not by politics to change people's ways of living. The architecture of Freiburg is not only energy saving but energy producing. However, my interest was more in their landscape planning which was people-centred. Cars are carefully controlled; children play on the car free streets safely and unsupervised. While listening to the audio without the visual, it was like hearing the story of a traditional African village landscape setting. My mind went to two proverbs, one from the Yoruba of western Nigeria and the other from the Hausas of the North.

The Yoruba live in the western part of Nigeria and say: "*Nkan ti a nwa lo si Sokoto o wa ninu sokoto wa".* This roughly translates as *"What you go searching for in Sokoto (a city in the far North of Nigeria) you might find in your sokoto (a word meaning your trouser).* Thus implying that the solution to your challenges might be right there with you, locally.

The Hausas live in the North and say: "*mai daki shi yasan inda ruwa ke zuba"* roughly translated as *"The inhabitant of a room can best tell where the roof leaks".* Meaning again it is one who best knows one's challenges.

These thoughts have directed my research focus to the community level and as was discussed during the transforming practice symposium on the philosophies, methods and impacts of our engagement with landscape while creating landscape

visions, '*How can we look through the eyes of others?'* (The Royal Society of Edinburgh, 2011)

1.8 Significance of Research

The outcome of this study provides the vision that could reconnect the community to its landscapes. If pursued further beyond conceptualisation to implementation, it could contribute to the development of the oil and gas Region and return communities' livelihoods and well-being. The research study is also significant in other ways aside from addressing the challenges of the Niger Delta Region as explained below:

a) The missing piece in the puzzle of intervention programmes

The study could help provide the component that has continuously been omitted in the social intervention programmes. It is envisaged that if taken further to implementation it could bring the necessary development aimed at by all the social intervention programmes because it could provide key understandings of the cultural landscapes and the environment.

b) Towards curbing rural/urban migration

The study could assist in making the rural environments more pleasant to live in. This is important for Nigeria as 70% of its population live below the poverty line (UNDP, 2006) and are peasant farmers or traders while 50.4% are in rural landscapes (NDDC, 2006). With the prediction by the Millennium Development Goal (MDG) of over 70% of the world population moving to urban areas by 2030 (Wizārat al-Takhṭīṭ and United Nations, 2004), it might mean that Nigeria sees a huge percentage of its population in urban slums. Therefore the significance of this research lies in identifying what makes as many communities as possible remain in their rural environments.

c) Trends in modernising cultural landscapes in Nigeria

The significance of this research could also be beyond the rural areas. It has to do with an observed trend in my country, in conventional planning, when handling landscapes from ordinary to derelict, redeveloped, reclaimed or those threatened. The community of interest always seems to have the upper hand where the planning is concerned and therefore it is the norm to see places demolished to

make way for new and modern developments that have no considerations for the community of place, their sense of place or means of livelihood. The driver of change appears to be the desire of politicians for modernisation. These views are shared by Wright (2002, p. 225) who summarised thus; *"While African cities have grown exponentially since independence, colonial patterns of land-use, neglect, and adaptation remain in evidence"* and according to Immerwahr (2007) this is generally seen as the consensus view.

This practise also extends to open spaces designated as neighbourhood parks which when eventually developed bear no relationship with the character of the community in which they are situated. Sometimes places that should be improved for the community of place are completely demolished thereby displacing the original occupants and their sources of income; when redeveloped they are malls or shopping complexes whose rent are beyond the reach of the original occupants. Though the redevelopment is led by a vision, it is "*a story about the lack of choice and the restriction of vision"* (Ibid p. 183). This trend in physical planning leads to the eventual displacement of the community of place leading to anger, frustration and poverty as a result of the disconnection created between the community and its past. The distinctive characteristics and cultural meaning of the landscape is also obliterated (Antrop, 2005). This kind of situation and its impact has been captured by Rodwell (2008) where absence of lineage in landscape was seen as good as being exiled from it even if one was not uprooted. Stephenson (2008) therefore advises those making decisions affecting landscapes to consider the potential nature of cultural values given that these values are most often not accounted for in standardised landscape assessment techniques. Understanding cultural values are important in landscape planning as they make a significant contribution to cultural identity and sustainability.

1.9 Research Overview

The aim of the research is to identify sustainable future landscape visions for the Niger Delta Region with the community and to understand how these impact sustainable landscape planning of the Region. The thesis is structured into nine chapters as follows:

Chapter one briefly introduces the research context which is the impact of the oil and gas exploration activities on the fragile landscape of the Niger Delta Region and how landscape degradation leads to civic unrest. The research questions come from an attempt to identify what the visions of landscape change are with the community. This chapter also provides the motivation and outlines significance of the study as well as a brief introduction to what to expect in each chapter.

Chapters two and three are the literature review chapters. They outline the background context and develop relevant theories for the study. Landscape planning and sustainability and approaches found appropriate for the research are discussed here. The literature relating to the cultural landscape and landscape change that provide a clearer picture of factors and components of landscape change are also discussed.

Chapter four analyses Nigeria in relation to the oil and gas exploration industry and how it impacts the Niger Delta Region as a whole and the case study site. The purpose of the research is revealed more clearly here.

Chapter Five is the methodology chapter. The first part presents a literature review of the data theories that influenced the selection of methods of data collection. The second part describes the fieldwork and data collection.

Chapters six and seven analyses and discusses findings from the two categories of communities, Ibeno and Eket and Environs, on the visions of future landscapes. The chapters draw out themes and findings that are carried into the discussion in chapter eight.

Chapter eight brings together the issues and provides a concise summary of major findings. The implication of the findings on the selected approaches from literature that guide the study are discussed, as well as their implication for landscape planning. In Chapter nine, the conclusion chapter, the research questions are revisited and the responses from the study as well as the conceptualisation of the sustainable future landscapes are presented. The contribution to knowledge, areas for further research and limitations are also discussed.

2 Chapter 2. Sustainable Landscapes: Theoretical Framework

2.1 Introduction to the literature review

Okon and Ansa (2012) correctly pointed out that research requires a theoretical framework to fasten on to. Therefore, in this research on conceptualising sustainable future landscapes with communities in the oil and gas exploration Regions, Chapter one made the argument to first create the visions with the people who live and work it. This is particularly as oil exploration activities and landscape degradation had resulted in the communities' grievances, conflicts and uprisings (Okumagba and Okereka, 2012; Ewokor, 2016). The oil and gas landscapes of the Niger Delta Region are not ordinary landscapes, and this might imply that the people have unique visions for reconnecting with them. Secondly, the researcher suggested that the landscape vision be guided by sustainable development, as it informs the agenda guiding the most recent Federal Government intervention programme known as the Niger Delta Regional Development Master Plan (NDDC, 2006). The European Landscape Convention (ELC) also references the role of landscape in sustainable development (Council of Europe, 2000).

The background theory as presented in this chapter, is of landscape planning for sustainable development. The next chapter discusses the focal theories of cultural landscapes and drivers of landscape change. Therefore, the broad guiding concepts and theoretical framework for the research explores landscape and sustainability, transdisciplinary planning, cultural landscapes and landscape change.

2.2 Definitions of Terms: Landscape in Sustainable Development

Brabyn (2009) comments on how critical it has become that all landscape studies clearly state how the term 'landscape' is defined in their studies, so as to avoid ambiguity in terms of the different values attached to different aspects. This is because a special set of information is required to understand the different values embedded within the concept of landscape. The definitions of landscape, sustainability, sustainable landscapes, landscape planning and sustainable landscape planning that have guided this study are hereby based on the idea that

‘*the landscape of sustainability is just as vast, difficult, slippery and mercurial as landscape itself* ‘(Roe, 2007a, p. 4).

The European Landscape Convention ELC (Council of Europe, 2000) defined landscape in Article 1 (a) thus:

> *“Landscape” means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors*

Landscape planning has been defined in different ways by scholars and international organisations (See for example Ahern, 1999; Leitão and Ahern, 2002; Von Haaren, 2002; Tress and Tress, 2003; Ahern, 2006). While the ELC definition of landscape planning in Article 1 (f) is:

> *"Landscape planning" means strong forward-looking action to enhance, restore or create landscapes*

The definition of landscape planning according to the International Union for the Conservation of Nature (IUCN, 1964) is

> *to help reconcile the needs of competing land uses and to incorporate them into a landscape within which civilisations can prosper without destroying the natural and cultural resources on which societies are founded*

The ELC definition of landscape is adopted for this research, rather than the primary dictionary definition or any other that is restricted to scenery, panorama or an artistic gaze (Scazzosi, 2004; Olwig, 2005; Stephenson, 2006). Landscape can also in a wider sense “*mean a tract of land shaped over time by geological and biological processes and by human occupation and agency and by human imaginations”* (Roe, 2007a, p. 3). Landscape however has a ‘language’ that can be read and imagined as well as spoken and written; it is pragmatic, polemical and rhetorical. As a scene of life, it is a carrier of meaning, hence a language (Spirn, 1998). It can be read to understand the complexities of the world and is a means of contemplation of our histories by being aware of the past, while preparing to build the future (Scazzosi, 2004). Additionally, landscape is a term not easily translated into many languages and the term also carries additional meanings in

its translations, as it can include Regional identity, ownership, belonging or its physical morphology (Wylie, 2007).

Selman (2012) outlines the new added complexities in its definitions brought by geomorphologists concerning the physical nature of the earth's surface regarding the operation of formative processes. For ecologists landscape is a land-water area across which the life cycles of species are performed; landscape is beyond the habitat scale. The definition of landscape varies across the sciences, from sustainability and resilience scientists to behavioural scientists' understandings which refer to landscape as a human life space (Selman, 2012, p. 2).

Stephenson (2008) expresses the principal facets of landscapes of interest to disciplines as archaeological aspects, historic features, natural forms, vegetation, aesthetics and beauty (Fig 2.1). This figure also infers that landscape is dynamic and studies in landscape could cover the material and non-material of its physical aspect while maintaining the human, natural, mythological and cognitive parts. Landscapes could be defined by their cultural, ecological, social and economic significance as well as via aesthetics and subjective impressions, for instance poetry, ideology and the symbolic meanings of a place. Thus, landscapes have been expressed as being of fundamental importance to the identities of communities, cultures and nations (Stephenson, 2006; Roe, 2007a).

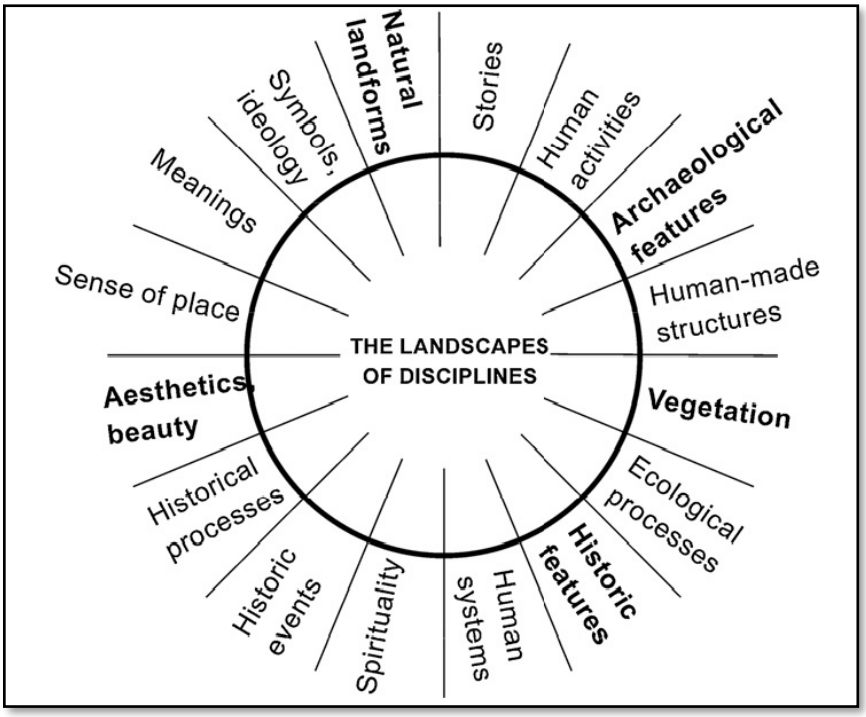


FIGURE 2.1: MAIN FACETS OF LANDSCAPES OF INTEREST TO VARIOUS DISCIPLINES
Source: Stephenson (2008, p. 129)

In conclusion therefore and in support of Antrop (2005), the definition of landscape as set out by the ELC was comprehensive because it brought ordinary and cultural landscapes into attention as well as natural, rural, urban and peri-urban. It covers marine areas, inland waters as well as land. It is this comprehensive understanding of the term landscape that this research employs.

2.2.1 Role of landscape in sustainable development (SD)

The term sustainable development (SD) originated from a report by the International Conservation Union (IUCN) in 1980 intending to respond to the *'Limits to Growth'* study, which predicted the collapse of our civilisation around the middle of the 21st century unless appropriate steps were taken to curb the excessive demands for resources and the exponential amounts of pollutants produced and released into the atmosphere. The Green movement employed it to challenge environmental depletion and later it became the key source in advancing the *'Our Common Future'* document set out by the United Nations Commission on Environment and Development (Atkinson, 2007).

Sustainable development (SD) has many competing definitions based on three typologies; a clarified conceptualisation, an ecocentric reading and a homocentric reading (Nyong, 2012). However, the commonly accepted definition is that of the Brundtland Report in 1987, which succeeded in unifying environmental sustainability and economic development into a global agenda. It was considered visionary by incorporating the need for human progress and development, as well as for linking poverty firmly to environmental damage resulting from excessive consumption. The definition is given as

> *"development that meets the needs of the present without compromising the ability of the future generation to meet their own needs" (WCED, 1987, p. 43).*

In the analysis of the definition of SD, Grosskurth and Rotmans (2005) indicated that it was a term political in nature and not scientific because the concept had normativeness, subjectivity, ambiguity and complexity. In essence according to Martens (2006, pp. 36-37), SD was to provide for the fundamental needs of man without violence to the natural systems carrying life on earth. Hence, using the different definitions, four common characteristics can be identified below:

a) *Intergenerational phenomenon with a time span of at least two generations*
b) *Level of scales from Regional to local*
c) *Multiple ecological, social and environmental domains*
d) *Multiple interpretations each projecting current and future social needs and how to provide for them*

The concept of SD emphasises positive evolution and positive lines of development as illustrated by a quotation (Giampietro, 2003 cited in Martens P. 2006) in which SD can be described as "*the capacity of a society to move itself, in a certain time period, between satisfactory, adaptable and viable conditions"* (p. 40).

Selman (2008) asserts that intelligent decisions concerning landscapes are pivotal to sustainable development because landscape became a principal issue in spatial policy in two ways; as a sector important to the outdoor amenities and leisure economy and as a basis for managing wider socio-environmental systems.

The concern of SD in relation to human wellbeing and intergenerational justice, in addition to the integrity of supporting environmental systems offers a system of values that lends to its assimilation via environmental design professionals according to Thompson (2007). Nevertheless, it could be acknowledged that the profession of landscape architecture could be seen on entries to both sides of the SD balance sheet. One entry has demonstrated concerns for bio-diverse habitats and a sustainable existence by fostering communal values, while the other entry could be said to be willingly or unknowingly complicit with unsustainable development. The broad ethical position of the profession nonetheless is homocentric and hence in tune with sustainable development's concern for human well-being from generation to generation.

Therefore in addressing the concerns of the degraded landscapes of the oil and gas exploration Region and to be guided by SD as the overarching principle as dictated by the current Federal Government intervention plan, this research adopts the terms sustainability, often seen as a shorthand for SD (Thompson, 2007) and '*whose central ideas are those of continuance and support'* (Thompson, 2002b, p. 89). Furthermore '*sustainable*' simply summarises an integrated and coherent approach, which differs from business as usual (Roe, 2007a) given that the term SD is a portmanteau expression that can also be used to address several varieties of approaches to environmental issues (Thompson, 2007). Thus, to implement SD, integrated approaches become necessary (Martens, 2006).

A new science of sustainability is being advocated to address the science-social by being more transdisciplinary in its conceptualisation and to eliminate the divide between professionals and lay communities (Potschin and Haines-Young, 2006). Therefore, the new paradigm of sustainability science according to Martens (2006, p. 38) is *co-evolution, co-production and co-learning* characterised as follows:

i. *Inter- and intra-disciplinary research*
ii. *Co-production of knowledge*
iii. *Co-evolution of a complex system and its environment*
iv. *Learning through doing and doing through learning*
v. *System innovation instead of system optimisation*

This is from post-normal science (Kuhn, 1970), which lays emphasis on the impossibility of eradicating uncertainty in decision-making processes and therefore, advocates adequate management through participatory processes engaging not only scientific but different types of knowledge. This has shifted the evolution of science from it being academic, mono-disciplinary to the following mode-2 science (Martens, 2006):

i. *Academic and social*
ii. *Trans- and interdisciplinary*
iii. *Participative*
iv. *Uncertain*
v. *Exploratory*

The scientific foundation which can be given to the concept of SD as set are in the literature signifies that SD is no longer abstract but concrete and achievable (ibid).

2.2.2 Sustainable landscapes

Antrop (2006) is of the opinion that the term 'sustainable landscape' might be contradictory given that landscapes are known to reflect the socio-economic needs of a society at a particular period and hence, are perceived to be in continuous chaotic evolution. Historic records of changes in landscapes demonstrate that several have been gradual, while others were abrupt leading to a complete transformation, such as the changes driven by the Indian Ocean tsunami on the 26th of December 2004 and other similar natural disturbances.

The concept of sustainable landscape thus remains relatively undefined or is defined within a specific application and geographical context by different professionals; for instance, landscape architects, planners and engineers prioritising different aspects of sustainability. Researchers and academics also differ with regards to the emphasis, which would be about its science, design, management, planning or history (Roe, 2007a).

Selman (2008) further explains that the two subcultures of the professions with respect to landscape architecture and planning also lead to varied interpretations

of sustainability the discourses were relatively distinct. One discourse interprets sustainability in terms of “low impact, but physically and socially a pertinent design”. The other subculture hinges on “natural” aesthetics and scenic planning; therefore, designating and safeguarding rural areas on the basis of those values. Selman explains how these distinct discourses also frame a divide related to landscape sustainability ranging from the anthropocentric to the ecocentric. Anthropocentrics view landscape sustainability as a resource underpinning human wellbeing, whereas ecocentrics define sustainable landscapes as self-generative dynamic systems. For that reason, Selman stresses “*landscape sustainability is characterised by ecological integrity and cultural legibility*” (Wu, 2013, p. 1010)

Furthermore, Ehrenfeld (2008, p. 2) defines sustainability as “*the possibility that humans and other life will flourish on earth forever”* and hence, ascribes the word ‘flourishing’ to a quality of all the three ‘legs’ of SD; thereby conjuring a vision of a desirable future. Antrop (2006) argues for two interpretations of sustainability. The first is ecological, whilst the second is expressed as the main principle for future landscaping, whereby potential landscapes, particularly in the countryside, could enhance sustainability. Sustainability in the landscape context, as identified by Hill (2007) has three principal arguments; efficiency allowing for new growth, conservation of resources, and restoring human health and the quality of the environment. Willard (2010) commenting on three sustainability models (Fig 2.2) indicates that it is society that determines which model to use and the importance of the components, as signified by the size of the circle, as in the long run, society dictates what goods and services to exchange with other societies and within themselves.

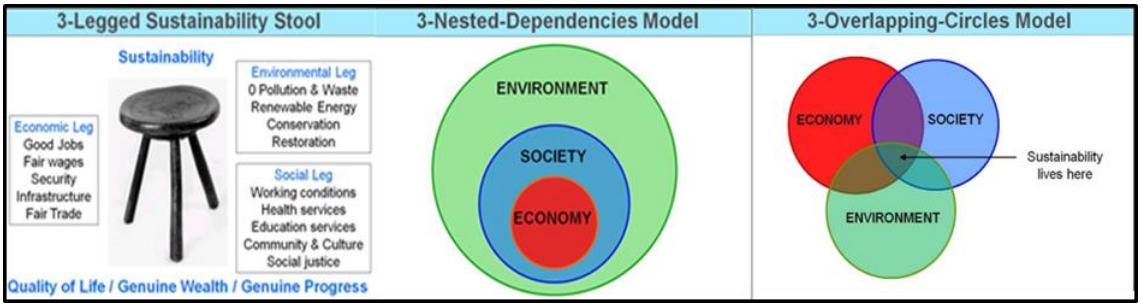


FIGURE 2.2: THREE SUSTAINABILITY MODELS

Source: Willard (2010)

As a consequence of the differing contexts in which it is framed, the definition of sustainable landscape is not straightforward. Selman (2008) suggests that a general definition would be based on the 'old world' and the 'new world'. In order to sustain the subtle character distinction, the 'old world' relates to a palimpsest requiring the maintenance of traditional land management practices. Conversely, the 'new world' saw something relatively pristine that required ecosystem management.

To Antrop (2006) the key to sustainable landscapes is three questions (pp.193-194)

a) Sustaining what?

This perspective is about landscape qualities and values regarding natural resources and cultural heritage. Therefore, biodiversity and water habitats, in addition to material objects and the immaterial values in landscape, such as genius loci and sense of place are the focus for preservation. Hence, traditional practices, functions and knowledge are maintained.

b) Types of landscapes to sustain

This perspective focuses on the two types of landscape created as a result of a general polarisation of land uses: intensification and extensification. The latter is seen in areas of depopulation and results in land abandonment, land degradation and environmental deterioration. The meaning of sustainability in the former differs for urban, suburban and industrial landscapes and moreover, differs with respect to industrial, agriculture, fisheries or tourism and recreation.

c) What is the scale and time horizon?

This too differs with respect to size, such as small local projects in contrast to large projects. It is also worth noting that the economy, investment and best available technology are factors too; however, the implicit time horizon is '*as long as possible into the future'* (p. 194)

The research reported in this thesis subscribes to the shift in the evolution of science to a new post-normal science paradigm discussed in 2.2.1 above. Consequently, the sustainability concept is applied here to add to the concept of landscape in sustainable development meaning that '*sustainable landscape'* is also an operational tool for SD. As has been affirmed by Selman (2006) that

landscape is an arena for achieving the balance between environment, economy and society, which is identified as necessary to achieve SD.

2.2.3 Sustainable Landscape Planning

Further to the definitions of landscape planning by the IUCN, which was very much concerned with sustainability, the ELC mentioned a number of key characteristics embedded in the explanations. Hence, it stated that landscape planning

> *"is concerned with conservation, enhancements of landscape resources for the benefits of current and future generations at a strategic level and usually over a long time scale"* (Council of Europe, 2000).

Landscape planning aims to provide landscape quality and integrated concerns regarding aesthetics, social, cultural, historical, biological, environmental and economic aspects by incorporating landscape structures and processes, as it seeks to look beyond the visual aspect of seeing landscape only as scenery. It therefore has the distinguished feature of a holistic approach, which crosses thematic borders that characterised the operation of many professions (Sarlov Herlin, 2004). In addition, landscape planning deals with multiple ownerships and interests concerned with multiple land uses and functions. Its impact is intergenerational and it is concerned primarily with public landscapes not private. Furthermore, It can cover large scale geographical areas and projects which can occur over a long period of time (Council of Europe, 2000; Selman, 2006; Benson and Roe, 2007).

In advancing sustainable landscape planning Paul Selman (2012) has made contributions towards understanding the potential reconnection of landscapes with society through the dynamic interactions and processes encompassed in the cultural system (Cole-Hawthorne, 2013). However, he also noted that communities might not be able to connect with the cultural landscape in its ecological-social aspects but nonetheless that landscape planning still has the responsibility for enabling visions for a better quality life and what Healey (2010) refers to as 'making better places'.

2.3 Dimensions of Landscape and Sustainability

The values inherent in landscape could be classified under aesthetics, social and ecological. Three sources consisting of positive values are identified in a trivalent approach of 'ecology, community and delight' (Thompson, 2002a; 2002b). The trivalent approach is presented in a framework which aims to provide some normative guidance, as well as to form a basis for landscape criticism (Figure 2.3).

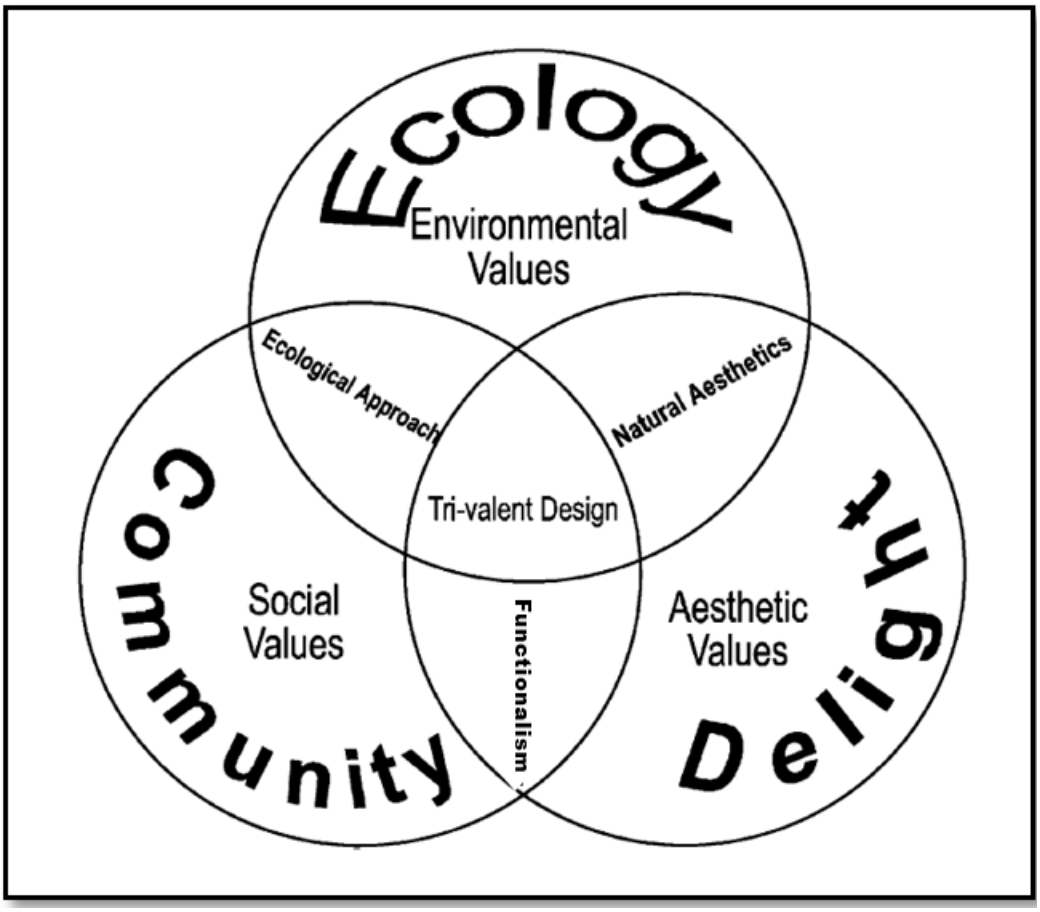


FIGURE 2.3: CONCEPTUAL OVERLAPS BETWEEN THE THREE VALUE AREAS: ECOLOGY, COMMUNITY AND DELIGHT

Source: Thompson (2002b, p. 7)

This Framework demonstrates how to identify landscape designs that embody the principles of ecology in harmony with the site, or designs lacking social dimensions, or those with strong aesthetic principles. Similarly, the framework illustrated how univalent, bi-valent and tri-valent designs could be achieved or made prominent

depending on emphasis and value overlaps. These designs need however to be guided by the central tenet of '*genius loci'* (Thompson, 2002a).

Away from landscape design and back to landscape itself, these plural views and nuances have been extended further in an article '*Freeing landscape from its silos'*, where Sarlov Herlin and Fairclough (2013, p. 44) explained how confining landscape to a narrow view of nature or culture is incorrect, as landscape has many characteristics which are beyond just scenery and views. Such characteristics and embedded values encompass representations and symbols, construction of place, polity and place, a way of seeing and being, a tool for change and protection, in addition to advancing human rights and more. These views are echoed in other writings (see Spirn, 1998; Scazzosi, 2004; Wylie, 2007; Selman, 2012).

Thering and Chanse (2011, p. 6) refer to the '*complexities and multiplicity of scales that characterised sustainability',* and Wu (2013) drawing from the Brundtland definition of sustainability for the landscape scale, as presented by different disciplines, lists fifteen definitions. In addition there are multiple views and nuances also derived from interdisciplinary perspectives on sustainability dimensions. Musacchio (2009) for example considers six dimensions dubbed the '6 E's' of landscape sustainability these are represented by two interlocking triangles (Figure 2.4).

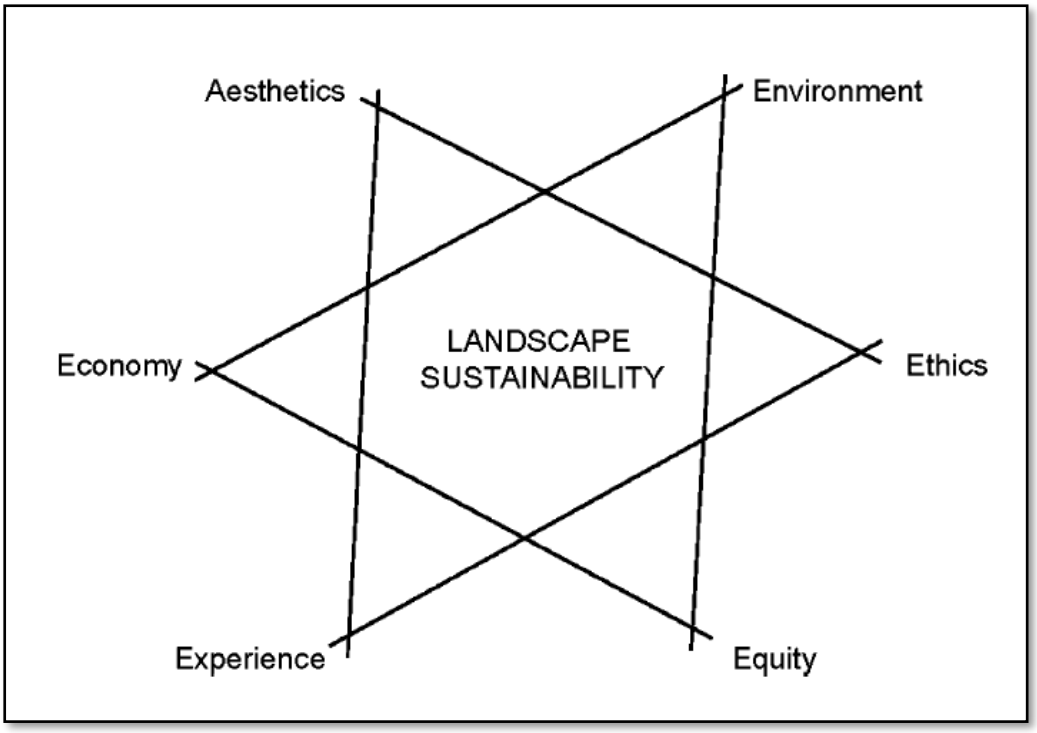


FIGURE 2.4: THE SIX E'S OF LANDSCAPE SUSTAINABILITY
Source: Musacchio (2009, p. 998)

Selman (2008) however recognises five dimensions related to sustainable landscapes, and landscape planning, thereby introducing economics and politics to the three identified by Thompson (2002a). The five dimensions of sustainable landscapes that subsequently emerge are environment, economics, social, political and aesthetics. This study adopts Selman's (2008) dimensions because his definition of landscape sustainability (Selman, 2007) encompasses the values expressed by both Thompson (2002a) and Musacchio (2009). The definition is:

> *"landscape sustainability is characterised by 'ecological integrity' and 'cultural legibility',…sustainable cultural landscapes (unlike natural landscapes) will be characterised by a capacity to reproduce simultaneously their forms, functions and meanings"* (Wu, 2013, p. 1010).

The key point in his definition includes the cultural legibility of landscape pattern; cultural identity and character, which constitute vital components in the creation of sustainable future landscapes for communities of the Niger Delta Region. Owing to differences in the emphasis concerning individual values, the dimensions are presented in the following section.

2.3.1 Environmental Dimension

Landscape issues are often discussed in the context of sustainability (Ndubisi, 2002; Ahern, 2005; Potschin and Haines-Young, 2006) and thus, landscape ecology can be seen as an important scientific base for understanding sustainable landscape development. Underlying the science, is the overriding desire for landscape ecologists to apply the concepts of ecology at the landscape level (Bunce, 2012). In addition, any alteration concerning the structure of the landscape changes the habitats of the plants and animals (Skånes and Bunce, 1997; Potschin and Haines-Young, 2006; Termorshuizen and Opdam, 2009). Landscape ecology theories are therefore important in understanding spatial pattern and processes. A sustainable landscape from this perspective needs to have its green infrastructure adequate in quality, size and connectedness to facilitate the life cycles, health and population of species.

Landscape sustainability has a robust connection to the concept of natural capital (Selman, 2008). Natural capital is "…*any stock of natural resources or environmental assets which provide a flow of useful goods and services, now and in the future"* (Potschin and Haines-Young, 2003, p. 96). This paradigm suggests that sustainable landscapes are able to maintain ecosystem goods and services outputs, as well as to understand the boundaries pertaining to the space required to make it possible (Potschin and Haines-Young, 2006).

Ecologists' ambitions in relation to sustainable landscape planning are based on maintaining the functions of life support and ecosystem services (landscape services) and also based on identifying biodiversity proxies. The focus is on the conservation and survival of the populations of targeted species in a spatial pattern (Termorshuizen *et al.*, 2007).

> *"The foundation for a sustainable future is the continuation of ecological processes across landscapes that are now dominated by human activity… future sustainability will depend on systems of resource governance that mediate the relationship between the society and the economy on one hand, and continuation of ecosystem functional processes on the other"* (Brunckhorst *et al.*, 2006, p. 225).

The examination of the environmental dimension of sustainable landscapes suggests that the ecological, social and economic processes are supported by the

landscape structure to enable it to continue to deliver goods and services even to future generations (Potschin and Haines-Young, 2006; Wu, 2012), whilst that of the present generation is maintained and not depleted (Opdam *et al.*, 2006; Pearson and Gorman, 2010). Environmental sustainability of landscapes is based on its multifunctionality, services and resilience (Selman, 2008) and its greatest challenge is to ensure the planning and management of the complex interaction of different habitat patches and ecosystem types, in terms of structure, function, size, shape and connectivity in an entire landscape (Blaschke, 2006). This is a complex undertaking principally in this era of global climate change, rising sea levels and the need to manage water resources (Millennium Ecosystem Assessment Board, 2005; Strang, 2006; 2008a).

2.3.2 Economic Dimension

According to Price (2012, p. 197) the economic dimension is inevitable in discussions of landscape sustainability because "*economics is the use of scarce resources to satisfy the competing wants of humans…"* which embraces both the physiological and psychological. The land, sea and sky are amongst the scarce resources which are referred to as natural resources. The definition of landscape by the ELC imbues landscape with economic meanings. It suggests that landscapes can be said to be the "*perceived environment which results from the interaction of the earth's resources and human needs"* (Price, 2012, p. 197). Even if consciously left undisturbed, an unmanaged landscape changes and such changes may have economic implications.

Though economics is often erroneously examined only through the concept of supply and demand, it is also about the production of goods and services and concerned with the conditions affecting production. Productive resources can be divided into factors of production, conventionally termed land, labour, raw material, enterprise and capital. Land is the canvass of the landscape professionals' art, while to economists, land is the primal factor of production (Price, 2012). Price (2007) is of the opinion that no special status or values be accorded to landscape sustainability by economics as the concept is already entrenched in the standard theory of pricing. The author provides an example from a sustainability context, related to how the cost of preserving a landscape would be the price of retaining it,

while that of losing a landscape is the price of restoring it. Where these are not feasible then the price of creating similar or alternative use should be provided (p. 37).

Considering the economic dimension in landscape planning requires consideration of the stewardship of a sub-Region through conservation, reinforcement, restoration or re-creation. In regenerative landscapes where biodiversity is lost, there is often hydrological disruption, community decomposition and erosion of visual character. Sustainable landscape planning can nurture the resource base through human agency in a 'virtuous circle'. Such stewardship can gain economic opportunity from the landscape's life support functions (Selman and Knight, 2006; Selman, 2012).

Achieving sustainable landscapes requires the maintenance of a virtuous circle through transdisciplinary approaches that reconnect environmental processes with social and economic entrepreneurship. The multi-faceted landscape can be seen to have the potential for sustaining livelihoods (Millennium Ecosystem Assessment Board, 2005). Nguyen *et al.* (2006, p. 1) explain the term livelihood to comprise assets which entail stores, resources, claims and access, in addition to the activities required as a means of livelihood. The concept of 'capitals' is also introduced in this context (Selman and Knight, 2006, p. 297).

The capitals are as follows:

a) *Natural capital - physical environmental and ecological functions, assets and capacities* "…*any stock of natural resources or environmental assets which provide a flow of useful goods and services, now and in the future"* (Potschin and Haines-Young, 2003, p. 96)
b) *Cultural capital – the human patina on the physical environment both physical*
    c) *Social capital – networks and organisations that link individuals and groups in relations of trading and trust*
    d) *Economic capital – investment that yields products and services, thereby creating wealth and employment*.

The term ‘capital’ is contested as it is also seen as an economic metaphor with no indication of justice or the nature of social relationships. However the concept is presented as not entirely concerned with material gains (De Haan, 2000).

Vicious circles are characteristic of ‘placeless’ landscapes or those that require high ecological and economic subsidies because globalisation has succeeded in de-coupling local economies (Selman, 2006; Selman and Knight, 2006). This decoupling could arise from an unsustainable increase in economic capital with no direct benefit to the locals but instead grabbing or destroying the natural capitals, such as with the oil and gas exploration in the Niger Delta Region of Nigeria. The unsustainable increase in economic capital leads to a decrease in cultural and natural capitals, and hence, a vicious circle.

The sustainability problem perceived as an economic one by several economists has been used to frame the natural resource issue in economic terms, for instance in terms of capital and yield (Roe, 2007a). Haines-Young (2000) asserts that sustainability aims to enhance quality of life by ensuring sustainable flows of goods and services. Though people inhabit the landscape and their interest has to be incorporated in planning, this interest should not result in overconsumption of resources. Consequently, a more dynamic consideration of the economic and environmental interface is advocated (Blaschke, 2006).

Depending on the landscape scale, Selman (2012) recommends breaking a vicious circle via the inclusion of a number of positive landscape features, for example visual attraction, good maintenance, useful facilities and by making the landscape pleasant to use. While in other contexts, such as Regional landscape scales, regenerative systems might need to be reinforced to break the vicious circle, moreover, public funds are required until the chain is broken and it becomes virtuous (Selman and Knight, 2006).

2.3.3 Social dimension of landscape Sustainability

It has been extensively recognised that landscape interventions can only be successful by consideration of the social dimension of change in conjunction with any other challenges, for instance environment and technology (Selman and Dawson, 2012; Jorgensen, 2014). It therefore becomes imperative to ascertain

solutions for society's problems that are hindering landscape sustainability (Roe, 2007c) and as a result, "*help elevate public comprehension of the significance of landscapes for quality of life*" (Naveh, 1995, p. 43).

Roe (2007c) explains two primary themes – social learning and social structure to best support social sustainability. She argued that though complex, the nature and functioning of social structure, institutions and systems controlling the change in the landscape will determine much of the landscape planning to be executed. While social learning can be enhanced through two attributes:

a) That of the individual exhibited through citizenship
b) That of the community through building social capital

The two major themes have also been reinforced in a summary of approaches for addressing social dimensions by Jorgensen (2014). These are policy and governance, new methods of raising awareness, creation of shared environmental knowledge, constructing landscape narratives and insights regarding underlying values, and furthermore, environmental perspectives driving particular approaches to landscape planning, management and theory building.

In the design of socially sustainable landscapes further acknowledgement is given to socially just or democratic landscapes, presenting the need to integrate both insiders' and outsiders' interest in the construction of place and the genius loci, as landscape has meanings for all. Hence, the term social sustainability is also about participation and inclusion in access and decision making (Scazzosi, 2004; Selman, 2008). In community settings, landscapes are often described more in the associative terms of kinship, friendship and employment rather than in the physical terms. These are perceptions which are intimate and pivotal to the social sustainability of landscapes that need to be explored and moreover, which engender mental images providing both purposeful and solitary recalls of place (Selman, 2012).

A further dimension to social sustainability is the connection between landscapes and people's health and well-being. As studies have revealed, there are connections between landscape experience and therapy and good healing, and furthermore, between vegetation and nature in mental health and recovery.

Additionally, landscape connections to wellbeing has also been suggested to a much broader field spanning national security to food security (Egoz, 2011).

2.3.4 Political Dimension

The political dimension is influenced by policies and practices, plans, rules, regulations and power relations. The meanings and understandings of which differ by countries and over history. The concept of landscape is viewed by some, as is cultural value - as fluid and contingent upon political and other attitudes. Consequently, it is entwined with politics and power negotiations, as well as conflict and contestation (Fairclough, 2012) and is thus, not necessarily the quest for the common good. In Sub-Saharan Africa for example, Healey (2010) reports how political elites used planning systems to maximise their tribal or even personal benefits. Similarly Gieryn (2000) reveals how there was nothing natural concerning the architecture of urbanity, where it was assumed that cities took material forms and cultural meanings but instead in a resolutely capitalist world, it was all about economic interests and political alignments.

In comprehending landscapes, Jackson (1994) moreover observed more than a scenic or ecological entity, he also noted a political and cultural one which was changing over the course of history. Though by no means underplaying the objectivity in the study and planning of landscape as a concrete material phenomenon, it is heavily embroiled in legal and political issues (Olwig, 2005). It is therefore not surprising that landscape issues are not played out in planning agencies in most parts of the world, but in the hands of pressure groups ranging from economic interest organisations and social activists to heritage groups (ibid) or community groups, in the case of the Niger Delta Region of Nigeria.

Since time immemorial via the authority of power, landscape has been used to display the dominance of wealth. Monuments of superhuman size have been erected to make ordinary people look insignificant and powerless (Spirn, 1998). Hence, where does political sustainability lie on the landscape given that "*capitalist industrial strategies are unavoidably territorial strategies, as geographic patterns in production and consumption create places of growth and decline" (Gieryn, 2000, p. 469).*

Political dimensions related to landscape sustainability are seen as extremely important and can be seen in power and contestations and related discourses (Wylie, 2007). These can be observed on the landscape and "*to those who can read the landscape it poses many questions…some policies and projects were deliberate and insidious in their effects; most well–intentioned but misguided" (Spirn, 2005, p. 396).*

There is a strand of thought in literature that connects the understanding of the achievement of sustainable societies in developing countries to first understanding the colonial and imperial powers that shaped them. In doing so, it is imperative to acknowledge the differences in the understanding of the word "need" to a less economically developed country, in comparison to an affluent part of the world. This strand suggests empowering local communities and producing local solutions and not by way of politics to "*re-create (neo-) imperial modes of economic exploitation"* which the developing economies are themselves encouraging (Whitehead, 2007, p. 112). It is not only the politics behind inappropriate economic growth that leads to major environmental damage, as in the oil exploitation of the Niger Delta Region, but equally poverty has been proven to be more harmful to the environment than affluence (ibid).

2.3.5 Aesthetic Sustainability

While visual quality is adversely affected by the exploitation of natural resources, a point to note is that the strict universal interpretation of sustainability aesthetics as permitting no aesthetic resources to be destroyed will not only truncate human development but traumatise it (Price, 2007; 2008). The author further adds that a resource that is to be preserved by preventing its use in perpetuity ceases to be a resource. As the aesthetic qualities of landscapes themselves have the character of products, economists recognise them as public goods. Hence future generations should have the ability to enjoy these aesthetic qualities which must not be compromised by previous generations (Price, 2007).

Landscape aesthetics is associated with ideas of complexity as beauty is said to be in the eye of the beholder. A choice of colours, textures, patterns and form constitute sight, which together with sound, smell and other sensual experiences

frame the perceptual and aesthetic appreciation of landscape (Roe, 2012a). The result is an aesthetic experience in which the landscape is presumed to present the observer with delight. Thompson (2002b) assigns the word delight to best describe aesthetics in landscape, as it broadly encompasses a variety of satisfactions. These range from the innate response to aspects of the environment to responses to designed objects and works of arts based on culture, symbolism and shared meaning (p. 82).

Thompson (2002b) further identifies four aesthetic discourses that could essentially be arranged on a continuum, placing maximum value on 'unspoilt nature' at one end and at the other end values which manipulate nature for either artistic expression or utilitarian social need. Generally, however two divergent views are seen to be expressed on the subject of landscape aesthetics in literature (Thompson, 2002a; Bunce, 2012; Selman, 2012). One encourages scenic beauty promoting the idea of designed landscapes as work of art expressing symbolism derived from the sub-conscience and attempting to show that human use is compatible with beauty in landscape (Thompson, 2002b). The other is ecological, '*letting the unseen hand of nature do half the work'* (p. 81) thereby connoting a different aesthetic experience beyond the tidiness and prettiness from where its unsustainable underlay and resilience is hidden.

It has nonetheless been illustrated that the best values for landscape are frequently achieved at the junction of the overlap as shown in Figure 2.3. Therefore, for example, at the intersection of ecology and delight is natural aesthetics inferring that "*landscapes designed along ecological lines will invariably be one which satisfies aesthetically*" (p. 84).

This perspective of aesthetics elicits care, attachment and identity. Untouched nature as understood by economists is not a resource in the strict interpretation of the term (Price, 2007). Thus, reconnecting the landscape suggests a new ethics of landscape care looking beyond the view to its critical social-ecological resilience (Selman, 2012). The authour notes however that aesthetics are innate and seen differently by people, hence are not so static for the reason that peoples' aesthetics appear to be in tune with social norms and narratives and programmed to the satisfaction of complex visual patterning. Maybe this is where sustainability in

aesthetics lies and it may possibly be achieved via the integration of ecology, community and delight – the trivalent, according to Thompson (2002b).

In conclusion, there are various divergent values and attributes to the dimension of sustainable landscapes that call for careful consideration in achieving desired goals. This thesis is guided by the five discussed above in agreement with Selman (2008) as they embrace all values and attributes for a sustainable landscape.

The following section reviews the approaches to sustainable landscape planning seen in literature and selects which approach or method from the different typologies that the researcher views as appropriate to guide this research.

2.4 Approaches to sustainable landscape planning

Processes in the landscape draw on various relationships between land uses, biotopes and ecosystems that need to be understood when planning for sustainability. Appropriate selections of theories and methodologies that help explain this complexity are required (Botequilha Leitão and Ahern, 2002). A useful review of contemporary sustainable planning theories by Ahern (2005) that have the sustainability mantra as a goal, reveals a typology of landscape planning methods. It is the aspiration of sustainable planning to connect the knowledge of sustainability to its implementation. The typology also provides a framework for understanding the similarities and differences between the methods and approaches. The five different subcategories are presented below and appropriate subcategories will be selected to guide this research.

2.4.1 Theoretical orientation

This hinges on the argument that two fundamental types of theories existed in landscape planning; the substantive and the procedural. The substantive or the explanatory aims at understanding information. It supports the understanding of landscape as a medium of natural and cultural processes through basic research. It is descriptive and prescriptive, for example prospect and refuge theory, central place and transactive theory or participatory. Procedural theories conversely recommend how to put the substantive theories into practice (Ndubisi, 2002), whereas substantive theories are employed by planners for guidance and information and use procedural theories as frameworks for a more direct

application of information to address landscape planning aims or problems (Ahern, 2005).

2.4.2 Resource or goal orientation

This model uses abiotic-biotic-cultural (ABC) resources method (Figure 2.5) and the level of integration needed amongst them as a goal for planning (Leitao and Ahern, 2002). In this method, specific goals are used in planning. The abiotic goals include air, water resources and soil. Biodiversity in general forms the biotic group and the cultural group are human-based such as land-use, recreation and transportation. In this planning model, the planning types are placed within the ABC model. The closer to the centre, the more integration in the planning (Ahern, 2005).

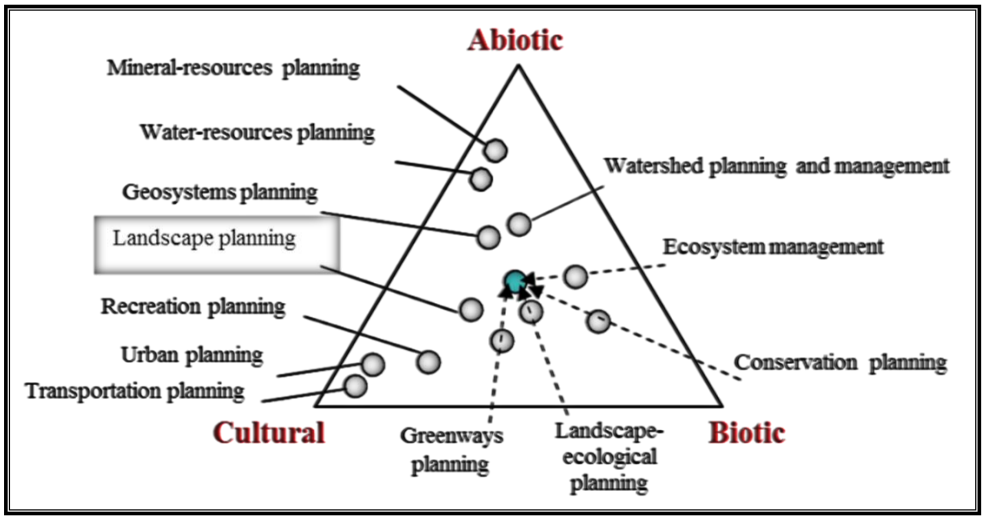


FIGURE 2.5: ABIOTIC – BIOTIC – CULTURAL (ABC) RESOURCE PLANNING CONTINUUM
Source: Ahern (2005, p. 121)

2.4.3 Strategic orientation

Based on the macro drivers of landscape change and putting the planning activity in a broader context for ease of application, the planner's strategic response according to Ahern (2005) classifies the orientation into four;

a) Protective – employed where sustainable processes and patterns are supported by existing landscape

b) Defensive – utilised to halt the already negative impact of fragmentation in landscape
c) Offensive – employed when there is need for a vision of landscape configuration, restoration, reconstruction as the present cultural landscape is of limited opportunities
d) Opportunistic – applied to landscapes that provide a corridor of specific opportunities to add functions

2.4.4 Interdisciplinary or Transdisciplinary

Sustainable landscape planning has many dimensions. Therefore environmental surprises should be anticipated as we learn to deal with the unpredictability and uncertainties (Naveh, 2001). These surprises arise from the inherent ambiguity associated with the interactions between human activities and the ecosystems. The resources release new kinds of human opportunities as well as expose new classes of human risks (Holling, 1996).

Transdisciplinary planning opens a wider window that transcends our discipline and creates a pool of knowledge outside our perception of landscape that will not only make us experts in our own fields but also able to comprehend other participants and thereby make available to us a greater pool of knowledge (Naveh, 2001). Hence, an integrated or balanced approach is advocated wherein the goals will be simultaneously pursued (Ahern, 2005); Therefore creating the vision for future landscape change in the Niger Delta Region at this initial stage might not work well with multidisciplinary working alone. As shown on Figure 2.6 there is more potential for integrative working where academic and non-academic participant work together successfully.

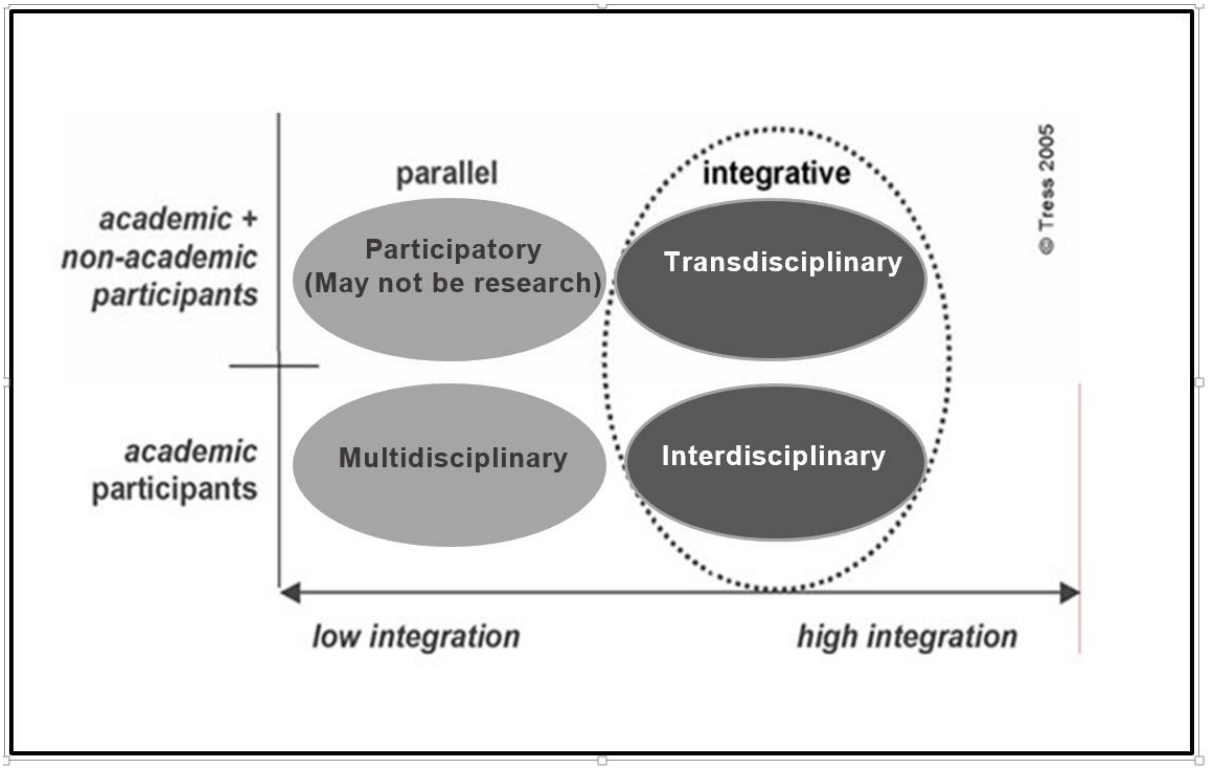


FIGURE 2.6: DEGREE OF INTERGRATION AND STAKEHOLDER INVOLVEMENT IN INTEGRATIVE AND NON-INTEGRATIVE APPROACHES

Source: Adapted from Tress *et al.* (2006a, p. 17)

Conceptualising sustainable future landscapes with communities needs high integration and is therefore best achieved through transdisciplinary planning. The best and greatest level of synthesis according to contemporary researchers is achieved through transdisciplinary working (Naveh, 2001; Ahern, 2005; Tress *et al.*, 2006b; Sevenant and Antrop, 2010). Professionals, non-academic and academic participants are involved and knowledge is shared; thus, all participants are engaged in bringing knowledge in relation to decision making that sustainability aspires to achieve.

- Insiders and Outsiders

Exploring the insider and outsider groups' perspective provides an additional approach to community participation with experts and non-experts. The insider-outsider approach to participation in landscape scale planning captures the categories of stakeholders and the wider public with respect to the ways in which they relate to or view themselves, as part of the conceivable physical spaces

(Figure 2.7). Experts could be insiders or outsiders. Local government staff and local advisers are examples of expert insiders. Local residents are non-expert insiders while professionals or funding agents could be expert and outsiders.

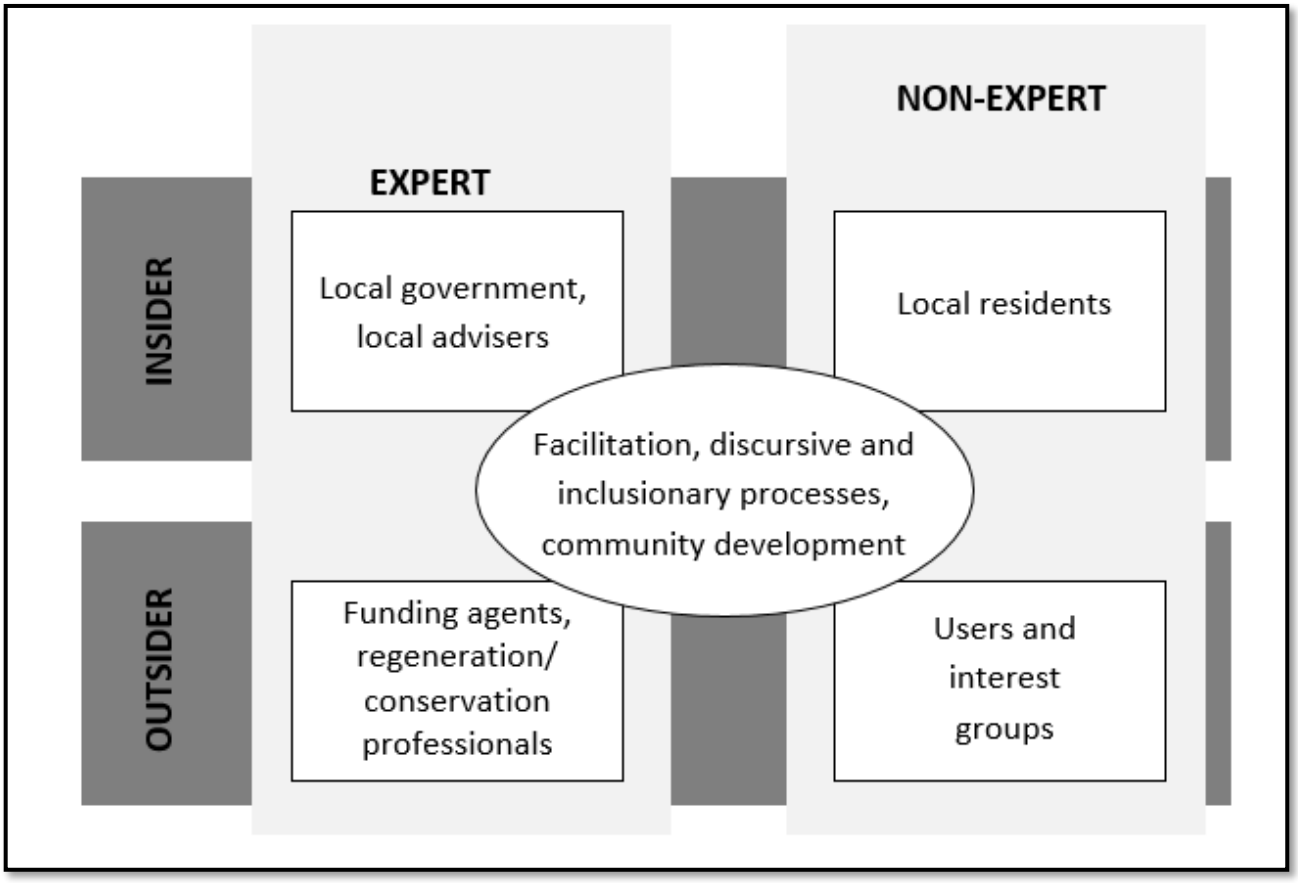


FIGURE 2.7 EFFECTIVE PARTICIPATION IN LANDSCAPE PLANNING
Source: Selman (2006, p. 113)

The involvement of communities provides the potential for mediating the criticisms of deficiencies of people-less driven landscape plans. While safeguarding the localities' social and economic vibrancy, this shift in emphasis also promotes sustainable development and the requirements of host communities (Selman, 2006). Furthermore, insiders and outsiders view landscapes differently. The insiders have their lives unfolded by the landscape while "*the outsiders can selectively enjoy the more amenable aspects of the territory and avoid the harsh or tedious one*"(Selman, 2006, p. 57). The characteristics of these two groups differ. According to Selman (2006, p. 61) the insiders value the following;

i. *Quality of life*
ii. *Local employment and production*
iii. *Facilities and services*
iv. *Memories and associations*
v. *Way of life*
vi. *Symbols*
vii. *Living space*
viii. *Safety refuge and defence*

The outsider groups on the other hand exhibit the following characteristics and interests;

i. *Recreation and tourism and scenic beauty*
ii. *Biodiversity and environmental service functions*
iii. *Vicarious consumption of customs and traditions*
iv. *Architectural Significance of buildings*
v. *Safe food, water timber and minerals*
vi. *Military training and conquest*

2.4.5 Spatial Context

The fifth subcategory found useful in guiding sustainable landscape planning is that of spatial context. There are metaphors repeatedly used to articulate spatial concepts that are highly imaginable and easily comprehended by the general public. They aim to guide the essence of a plan, as in the example of the “green heart” (Ahern, 2005) or Howard’s “garden city” (Howard and Osborn, 2013)

2.5 Selected approaches to guide the research

Some approaches and methods from the five groupings discussed above have been selected to direct this research. This means that an appropriate sub-category has been chosen from each of the five groupings. These are:

a) With relation to developing a theoretical framework (Ndubisi, 2002), the procedural is suggested.

b) Landscape planning was chosen from the abiotic, biotic and cultural model of Leitao and Aherns (2002),
c) An offensive strategic orientation is suggested to address the effect of oil and gas exploration which is the external driver of landscape change in the Region (Ahern, 2005)
d) A transdisciplinary typology is suggested so as to achieve the highest integration of the goals involving both academic and non-academic professionals
e) For the Spatial context typology for this research, it is suggested that “at the heart of community level” guides the spatial concept.

2.5.1 The Framework model

In additional to the approaches and methods discussed, there are also models for sustainable landscape planning under the subcategories mentioned above. (Botequilha Leitão and Ahern, 2002). Several models lay emphasis on landscape planning, others stressed landscape ecology, Environmental Impact Assessment, ecosystem management, some are on rural planning, landscape ecological planning and sustainable land planning. This research has nevertheless identified the Framework Model (Steinitz, 1990a; 1995; 2012) as an organisational framework (Figure 2.8) suitable for this research because it is inclusive of the subcategories identified through the literature review above and most importantly, could appropriately guide the conduct of the empirical study.

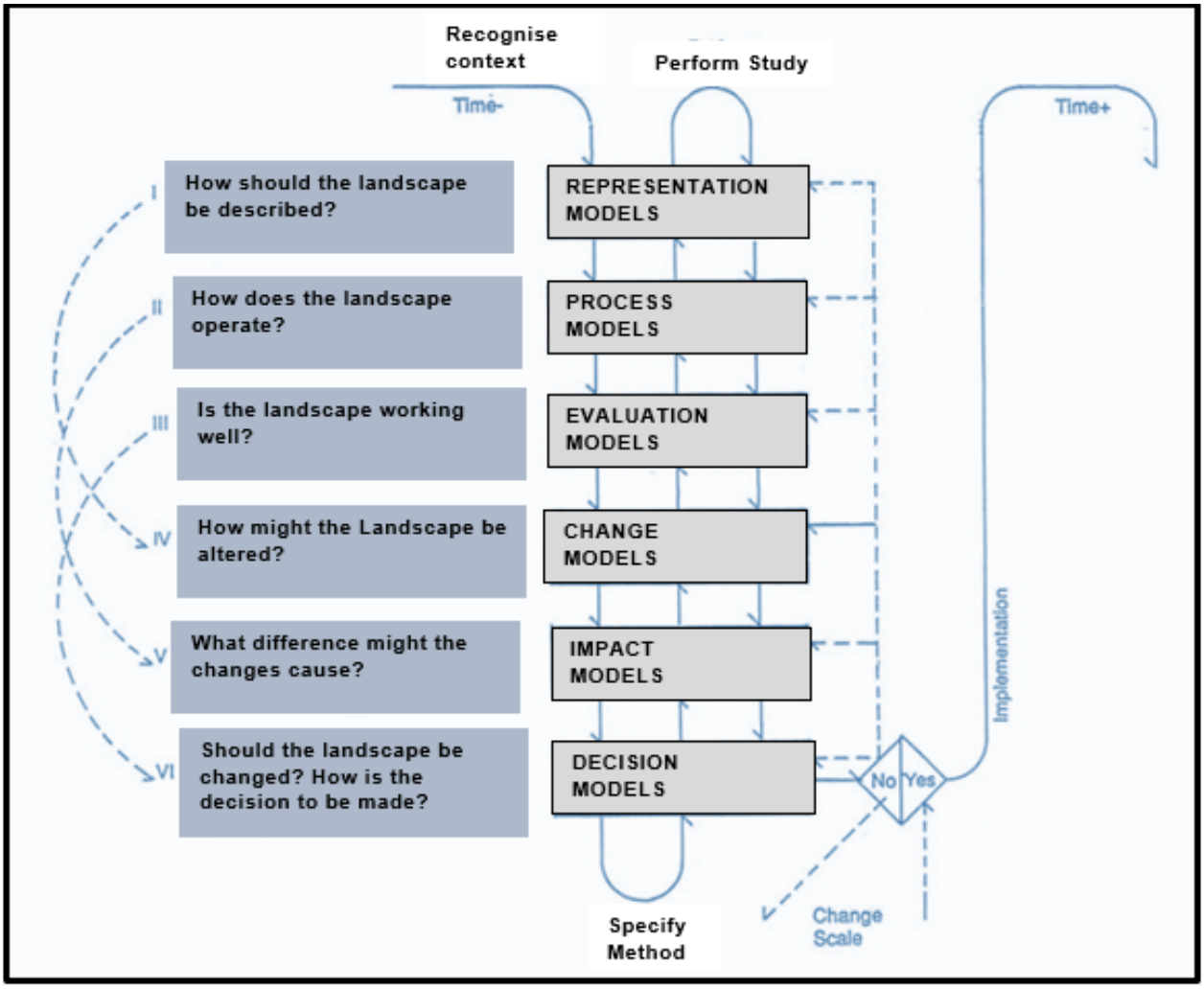


FIGURE 2.8: FRAMEWORK MODEL

Source: Adapted from Steinitz (1995, p. 189)

The Steinitz (1990a) Framework Model as shown in figure 2.8 is made of six levels of different models and each model consisting of questions fundamental to landscape planning. The Model engages professionals and stakeholders, as well as scientific experts in a robust, iterative and participatory landscape planning process. It integrates applicable knowledge and can identify areas requiring the contribution of theory. It integrates Abiotic, Biotic and Cultural models and can be adapted to any of the strategic planning contexts (Steinitz, 1990a; Ahern, 2005). the Framework Model and its series of six questions are presented in details in Ahern (2005, p. 126) as follows:

1. *Representation: How should the state of the landscape be described in terms of content, boundaries, space and time*

2. *Process: How does the landscape work? What are the functional and structural relationships among its elements?*
3. *Evaluation: How does one judge whether the current state of the landscape is working well? The metrics of judgement include: beauty, habitat diversity, cost, nutrient flow, public health or user satisfaction*
4. *Change/intervention: By what actions might the current representation of the landscape be altered (whether conserving or changing the landscape)?*
5. *Impact: What predictable differences might the changes cause (i.e., using process models to stimulate change)*
6. *Decision: How is the decision to change (or conserve) the landscape to be made? How is a comparative evaluation to be made among the alternative courses of action?*

In offering the Framework Model Steinitz (2012) himself comments;

> "I take *a pedagogic position: we should first act communally and professionally at the strategic level, and only after that do we proceed to act individually and creatively at the tactical level. First we must understand our world (as best we can), and on that basis our work can then be individualized for any particular projects"* (p. x).

This research supports the questions of the Framework Model and employs it as a guide to creating the visions of future landscapes. This is because it asked the questions in such a way as to enable responses specific to the landscape form members of the community, as well as the understanding of the responses by means of the previous and preceding responses. Steinitz's (2012) thinking has also been shared by Terkenli (2001, p. 201) in the following remarks;

> *"if landscape as perceived constructs are created through human action and experience inscribed in place through time and conceived mainly visually and experientially, then landscape analysis and planning must primarily follow the opposite direction: from the perceive forms and communicated meanings to the fulfilment of their multifunctional roles as sustainable milieu of human livelihood…process as multi-layered and many directional".*

Steinitz (2012) explains how the set of questions is shaped to solve large, complicated and significant design or planning problems on a geographical scale, ranging from neighbourhoods to cities to landscape Regions or river basins. Each

set of the questions is a level of enquiry and has an associated theory-driven model type, which can be explored to integrate applicable knowledge, for example from existing models. It can also be directed towards landscape change or to identify other areas, which require contribution of theory (Steinitz, 1990a).

2.5.2 Conclusion

This chapter identifies the key background issues for consideration in answering the overall research question posed in this study. In positioning the study on the role of landscape in sustainable development relevant terms, dimensions, approaches and methods as well as models are identified and defined. The complexities and additional meanings of landscape for example, which are inherently found in its translations across different languages and disciplines are presented. The ELC definition is chosen because of its comprehensiveness. The definitions and meanings of sustainability and sustainable landscapes are discussed and understandings of landscape planning reviewed.

Understanding sustainable landscapes entails appreciating the roles of its five dimensions namely; environmental, economic, social, and political and aesthetic. These dimensions of landscape sustainability are discussed revealing a complex and interacting picture of understandings.

Sustainable landscape planning can also be approached from five different orientations (theoretical, resource or goal, strategic, interdisciplinary or transdisciplinary, and spatial context) and through numerous models. Studies can be situated in a subgroup of each of the five different approaches depending the desired outcome. The appropriate subgroups for this study from each of the five orientations have been presented here. However, with regards to models, only Steinitz's Framework Model is particularly relevant for the conduct of the empirical study with the communities, seeing as it asks questions in a systematic but flexible manner that deals with the ranging scales and complexity of landscape from its representation to its process etc. that would guide the creation of the vision for future landscape.

In summary, the chapter provides the background theory for the research while the focus theory is presented in the next chapter which reviews literature that assists

the conceptualisation of the future sustainable landscapes through the comprehension of the role of human agency, cultural landscapes and landscape change in the creation of communities' vision.

3 Chapter 3. People, Cultural Landscapes and Landscape Change

3.1 Introduction

Selman (2012) asserted that the overriding feature in the European Landscape Convention's (ELC) definition of landscape is culture combining with nature; therefore, making human agency an important driver of landscapes' functionality and appearance (p. 2) and hence, landscape change. The socially-led interaction with nature held the power of interaction necessary to break a vicious cycle (Cole-Hawthorne, 2013) and this is the cycle that best describes the present landscape of the Niger Delta Region. The degraded landscapes of the oil and gas exploration Region have produced what Selman and Knight (2006) would consider a vicious cycle that needs to be broken and the impacts of the cycle remedied.

In this chapter, the researcher acting as an "*agent of the society's reflective conversation with its situation"* (Roe and Rowe, 2007, p. 238) looks further into the relevant literature and offers an understanding regarding the interaction between people and landscape. The researcher considers landscape change, in addition to the change drivers that shape the vision of future landscapes within communities. As landscape is a mediator of society and its ideas and values (Jones, 1991), this chapter examines understandings in relation to cultural landscapes, which are crucial in creating future landscapes (ibid). This is for the reason that cultural landscapes are landscapes that bear the impact of human activities and are an expression of how nature is transformed through social and cultural practices (Taylor, 2002; Swaffield and Brower, 2009).

3.2 Terms and concepts

Terms used in discussing landscape change and cultural landscapes are defined or explained here so as to comprehend the concept's application within this thesis, as well as its importance to landscape planning. These are:

3.2.1 Degraded Landscape

Landscape degradation is the "temporary or permanent decline in the productive capacity of the land"(Fisher, 2005, p. 88). It leads to environmental changes initiated by man and is not limited to but may include soil erosion, losses in

biodiversity and habitat, resulting in productivity loss. Fisher (2005) further stated that landscape degradation is a cognized cultural phenomenon caused by human decision making or the unintended consequences associated with the decisions. Thus, landscape degradation can be recognised, as well as measured by physical changes in the environment. Society is known to adapt to change; however, Nayak and Berkes (2010) observe that if the speed of change overwhelms the ability to respond, the impact on society and its means of livelihood will be far reaching. In the tales of ecological suicide[3], it has been said that landscape degradation is frequently cited as having changed ancient societies (Fisher, 2005).

3.2.2 Fragmentation

Carsjens and van Lier (2002, p. 79) define *"fragmentation as the process that spatially segregates those entities that belong together in order to function optimally."* As a land-use phenomenon, it is significant that its influence spans native systems and agriculture to outdoor recreation and urban life. Habitat fragmentation in rural landscapes, for example has several negative effects as landscape elements are cut into smaller parts. Original habitats are lost as a result, and the size of habitat patches decrease further and become isolated. Spatial fragmentation leads to urban sprawl, causes landscape deterioration and loss of cultural sites of historic importance, and moreover, affects agricultural efficiency. It is essential to analyse fragmentation by identifying its type, cause and magnitude and the problem it has caused so that landscape planners can correct or control the problem or even act as negotiators working with the stakeholders (ibid).

3.2.3 Community

The concept 'community' has been called a chimeric notion with as many meanings as the word sustainability and many values placed on it. The idea of what it is in relation to landscape is also challenging to unravel. Though not necessarily representing a place-based notion in contemporary society, it may still have a place or landscape based idea (Roe, 2007b). In developed countries, the word community had almost disappeared for almost two decades but had re-emerged in

[3] Unintended consequences of large scale human manipulation of land capital that resulted in pressure on resources and contributed to landscape degradation and hence catastrophic temporary or permanent landscape failures.

actions that address social life and rurality in both research scale and cultural meanings (Liepins, 2000). As with sustainability, the rhetoric of community, principally community participation has recently been seen as the pre-requisite for progressive development and formulation of policy, particularly with regards to common pool resources. Community, though a difficult and problematic concept is also tied inseparably to identity but cannot be dissociated from control, manipulation, personal agenda and hierarchy (O'Rourke, 2005).

This research study aligns with the understandings of Cohen (1985, p. 16) which maintained that the hallmark *of "community is [that] its members make, or believe they make, a similar sense of things…and that that sense may differ from one made elsewhere"*. The word community itself has a 'feel', it feels good to have a community and to be in a community, and it conveys pleasure the type to be experienced and not to be missed (Ahmed, 2011).

In the past, there have been at least four broad approaches shaping research in rural studies, which focused on community. These theoretical perspectives can be recognised as the structural-functionalist approach, the ethnographic/essence approach, the minimalist approach and the symbolic construction approach. All these approaches have their identified shortcomings and the word community is being re-conceptualised to address the shortcomings. In developing countries however the word community still holds its traditional spatial concept as a "social phenomenon indicative of a local scale of activity" (Liepins, 2000,p. 32).

3.2.4 Community of place, community of interest and community of identity

Landscapes are associated with identities. They are conceptualised '*as part of the way in which identities are created and disputed, whether as individual, group or nation-state'* (Bender, 1995 cited in Egoz, 2013). The researcher does not support "*any notion of a monolithic community identity as ideal"* but recognises that within any locale there is expectation of the existence of several community identities (Stewart *et al.*, 2004, p. 316). There are therefore three basic community types, in relation to landscape planning practice. Community of place, community of interest and community of identity (sometimes known as community of practice) (Roe, 2012c).

A community of place is a community bound together by residency and work, or which spends a considerable length of time in the location through visits. It is tied together through physical space and geography, as well as in its indigenous and experiential knowledge. Early writings on ways to strengthen social fabric through the development of a sense of community, such as that by McMillan and Chavis (1986) identified research with views on the territorial and geographical notion of community of place.

The second type of community is relational and known as the community of interest (Gusfield, 1975 cited in McMillan and Chavis 1986). It shares a common interest and passion and exchanges ideas or thoughts on those interests or passions. While it has no reference to location, it is however concerned with the "quality of character of human relationships". These communities of interest therefore have experiential and expert knowledge (McMillan and Chavis, 1986; Manzo and Perkins, 2006).

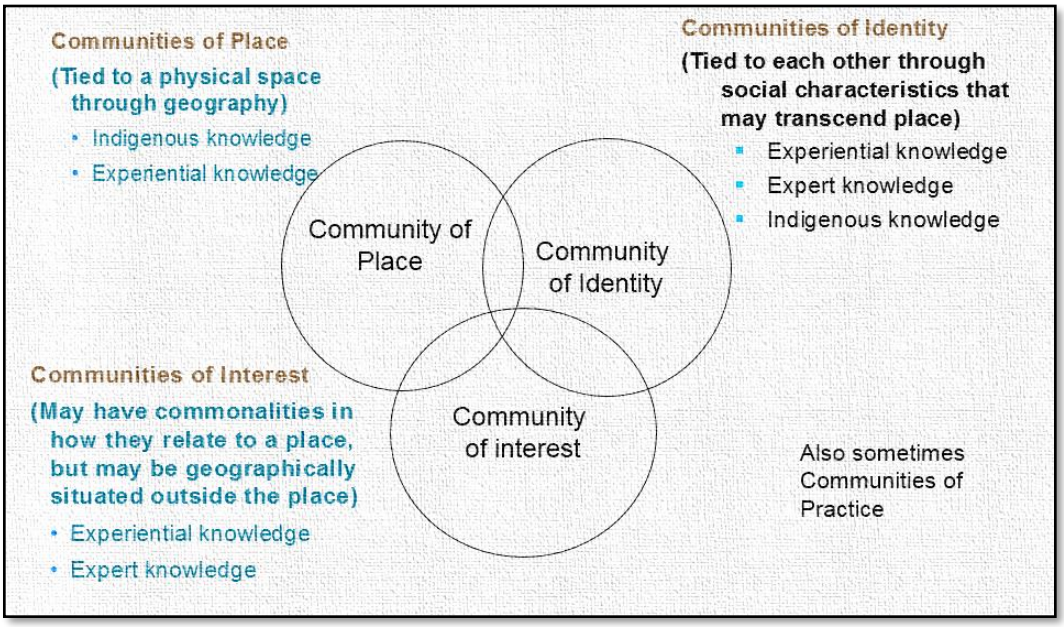


FIGURE 3.1: COMMUNITY TYPES IN RELATION TO LANDSCAPE PLANNING PRACTICE

Source: Roe (2012b)

A community of identity has similar characteristics with a community of place although with additional expert knowledge acquired through travels, work or even

exposure. The three represent community types with respect to landscape planning practice (Roe, 2007c; 2012b). An opinion is that in modern society, a sense of community develops around interests, knowledge and skills (Figure 3.1).

3.2.5 Sense of Place

Wattchaw (2013, p. 87) explains how *'landscape, places and cultures are ineluctably linked [and how] they work on and change each other over time'.* This illustrates the important role of landscapes and places in the development and sustenance of cultural identity. The author further suggests how a sense of place might '*involve an embodied emplacement...not dismissing our own layered enculturation and the cultural forces which inevitably brings change to that place*' (Ibid p. 92).

In the definition of sense of place, Clark (2012) sees it as the relationship between people and place, which is important for

> "…*individual and community identity. It is also a profound centre of human existence to which people have deep emotional and psychological ties as well as part of complex processes by which individuals and groups define themselves and bound up in people's source of meaning and experience"* (p. 120)

If we have to accept that sense of place expresses our individual identity and community value, Woods *et al.* (2012) argue that places with such attributes will be exceptional, given an individualistic and globalised world. However, the authors draw attention to the fact that having a 'sense of place' is especially true for rural people for whom land is more than just the foundation for towns and cities, or for its rural economy based on some ingenuity and industry. This perspective holds the understanding of the term sense of place in this research study. The discourse therefore holding here is of rural people 'working the land', 'tending the land', in addition to knowing and living the land'. Rural land is at the heart of its economy and society and therefore, fundamental to shaping rural cultures and their calendars, as well as contributing to rural character and sense of place.

3.3 People and landscape interactions

Selman (2012) mentions how humans have overpowering physical and psychological associations with landscapes despite cultures and connections being increasingly global and virtual. This is for the reason that we still live in real locations in spite of our instantaneous and non-spatial cyber existence (Clark, 2012). On a large planning scale for example, numerous cultures make sense of landscape in many different ways as perceptions of landscape are built not only through the experience gained by our senses but also through traditions passed down to us over generations and which consequently make up our cultures; thus, supporting the notion of landscape springing up from the interaction between culture and nature (Roe, 2012c; Roe, 2012b).

It is for this reason therefore that landscapes are shown to provide goods, services and functions. In a study by the National Character Areas initiative – Natural England 2009 – it can be noted that landscape provides the eight cultural services listed below (Roe, 2012c, p. 197):

i. Sense of history
ii. Sense of place (identity and home)
iii. Stimulus (Inspiration)
iv. Relaxation and tranquillity (Calm)
v. Recreation (Leisure and activity)
vi. Spiritual
vii. Education (learning)
viii. Escapism (getting away from it all)

This therefore indicates that a range of interlinked cultural services are being provided by landscape to promote not only sense of place but of well-being and quality of life. Buttressing this as well, Selman (2012) illustrated how people and landscape interactions provide many benefits which range from the social, psychological and economic to those of opportunities (Figure 3.2). The figure for example shows how landscape character provides legibility and remanence to the people while the people in turn, through emotional attachments and sense of place provide the landscape character and distinctiveness.

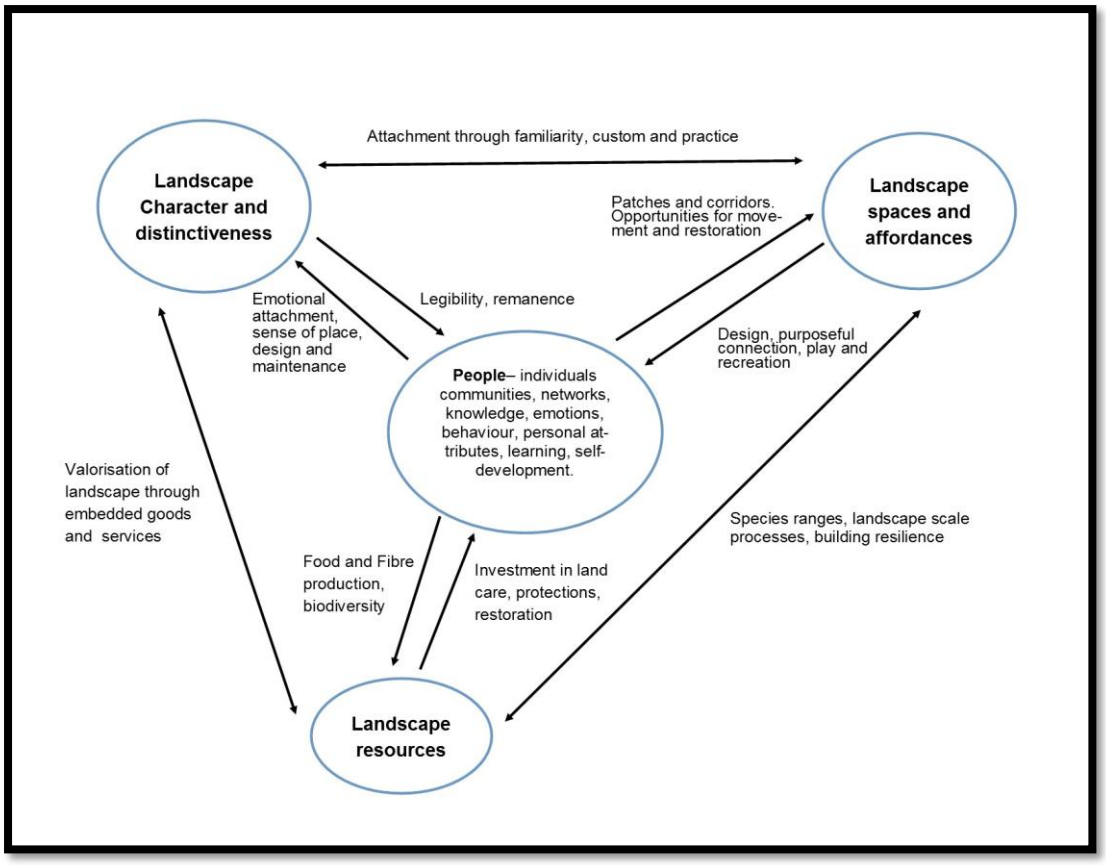


FIGURE 3.2: LINKAGES BETWEEN PEOPLE AND THEIR LANDSCAPES
Source: Based on Selman (2012a, p. 117)

Democracy, decision making and justice also springs up in people and landscape interaction in recognition of considerations of power and control in landscapes. To this effect Roe (2012b) suggests the contribution that constructive or productive disagreements can make towards addressing complexity and the range of issues previously seen as problems.

3.3.1 Culture

Nassauer (1995, p. 230) defined culture as "*the sum total of ways of living built up by a group of human beings and transmitted from one generation to the other*". The political structure we operate, the economic use for our land, our social conventions and what we prefer aesthetically all add up to summaries of our culture (Ibid). While it is commonly accepted that culture is a social construct, it is anchored in local landscapes, which in turn have a significant impact on our physical and mental

wellbeing. Cultural studies have shown that peoples' interaction with landscapes vary and range from the transactional to the fundamental. In the transactional, landscape is viewed as somewhere to obtain entertainment or exercise, while the fundamental connects landscape to everyday life.

Generally the association between society and landscape is so close that it is seen as a mirror of culture or even sometimes read as "text" that portrays changes that had occurred (Roe, 2012c). Therefore, in reconciling human society with nature lies the need to understanding the interaction between landscapes and their driving cultural forces (Naveh, 1995). Hence, in order to avert severe environmental crises, landscape ecologists, planners as well as the public, are implored to emphasise the significance of landscapes to quality of life. Nassauer (1995) is widely quoted on the central premise "*that culture structures landscape and landscapes inculcate culture" (p. 229).* Thus, indicating the feedback loop in the interaction. To this effect, the author proposes the following four broad principles:

a) Landscapes are directly affected by human landscape perception, cognition and values and vice versa
b) Landscape patterns both in inhabited and apparently natural landscapes are strongly influenced by cultural conventions
c) The scientific concept of ecological function in nature differs from the cultural concept of nature
d) Cultural values are communicated in the appearance of landscape.

Therefore, culture is seen not only to structure landscape but could also suggest an array of ways to create possible visions or construct future landscapes. This is within cultural expectations on what people notice, prefer and find interesting in landscapes and also within knowledge of a scientific nature.

However, cultural identity is not all with reference to social relationships as it is also spatial. Stephenson (2008) explains this using a cultural values model, which illustrates the strong associations between cultural identity and the way people interact with their landscape. As there are numerous ways of valuing landscape, the author defines cultural values as "*those values that are shared or valued by a group or community, or are given legitimacy through a socially accepted way of assigning values"* (p. 129). Therefore landscape values could arise from an

immediate response to the physical environment, for example its aesthetics, or could occur as a result of relationships and understandings, as a result of the temporality of the landscape.

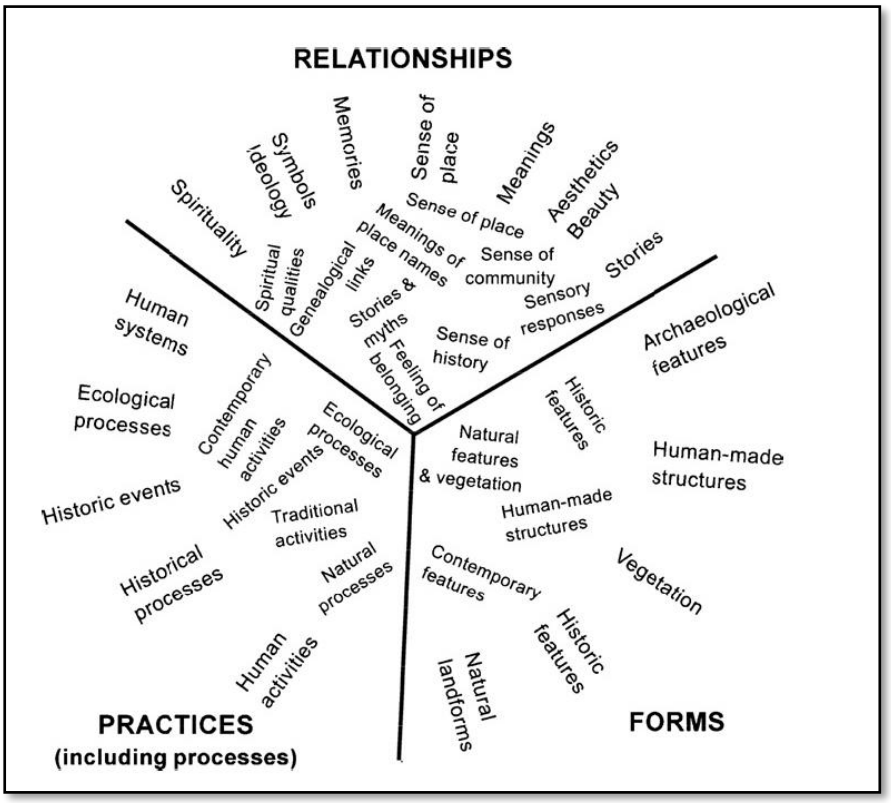


FIGURE 3.3: THE INNER CIRCLE REPRESENTS THE VALUES EXPRESSED BY ASSOCIATED COMMUNITIES

Source: Stephenson (2008, p. 134)

Figure 3.3 presents landscape as a strong synergy of three basic components that make up the culturally valued aspect of landscape. The *form* component is made of the tangible, measurable and physical aspects of the landscape or space. The second component known as '*Relationships*' are generated as a result of human relationships between and within the landscapes. These span between people-people interaction, people-landscape and even those values with the absence or presence of little human involvements in the landscape (Stephenson, 2006; 2008).

3.3.2 Cultural landscapes

Roe and Taylor (2014, p. 2) have drawn attention to three forces that assist the current focus and attention on cultural landscape:

a) The introduction of the three categories regarding landscapes recognised by the World Heritage Convention in 1992
b) The adoption of the European Landscape Convention in 2000, which came into force in 2004
c) Emerging and changing views related to cultural landscape discourse into one of a bridge between culture and nature (Taylor and Lennon, 2012)

Cultural landscape is a term coined by Carl Sauer (1889-1975) and "*seen as living landscapes that reflect a range of relationships between humans and natural cycles…* in which *culture is the agent, natural area is the medium and cultural landscape the result"* (Roe and Taylor, 2014, p. 3). Selman (2006) referred to cultural landscapes as synoptic spaces fusing human and non-human elements in a social and physical entity encompassed in individual and collective associations (p. 7). He also summarised how cultural landscapes have been represented in literature over the years to consist of; nature plus people, past plus present and physical attributes consisting of scenery, nature and heritage. In stewardship, it is represented by form, meaning and functions and further amplified by structures, functions and values or meanings.

Cultural landscapes further possess layers of multiple legible inscriptions on the landscape and distinct principal characteristics (Selman, 2006, pp. 10-11) which consist of:

i. Time-depth stretching centuries and millennia
ii. Imprints of struggle, survival and settlements
iii. Reflect evidence of production from human toil to machinery
iv. Aesthetic qualities for enjoyment and passive leisure, wilderness and the picturesque
v. Natural sustainable qualities seen in ecosystem services and biodiversity
vi. Insider secret knowledge associated with customs and practices

A further look at interactions in landscapes to comprehend cultural landscapes indicates that landscape is understood to encompass a spectrum of interconnections which Selman (2012) expands by drawing on a range of disciplines with the theoretical and practical basis for reconnection to landscape (Figure 3.4).

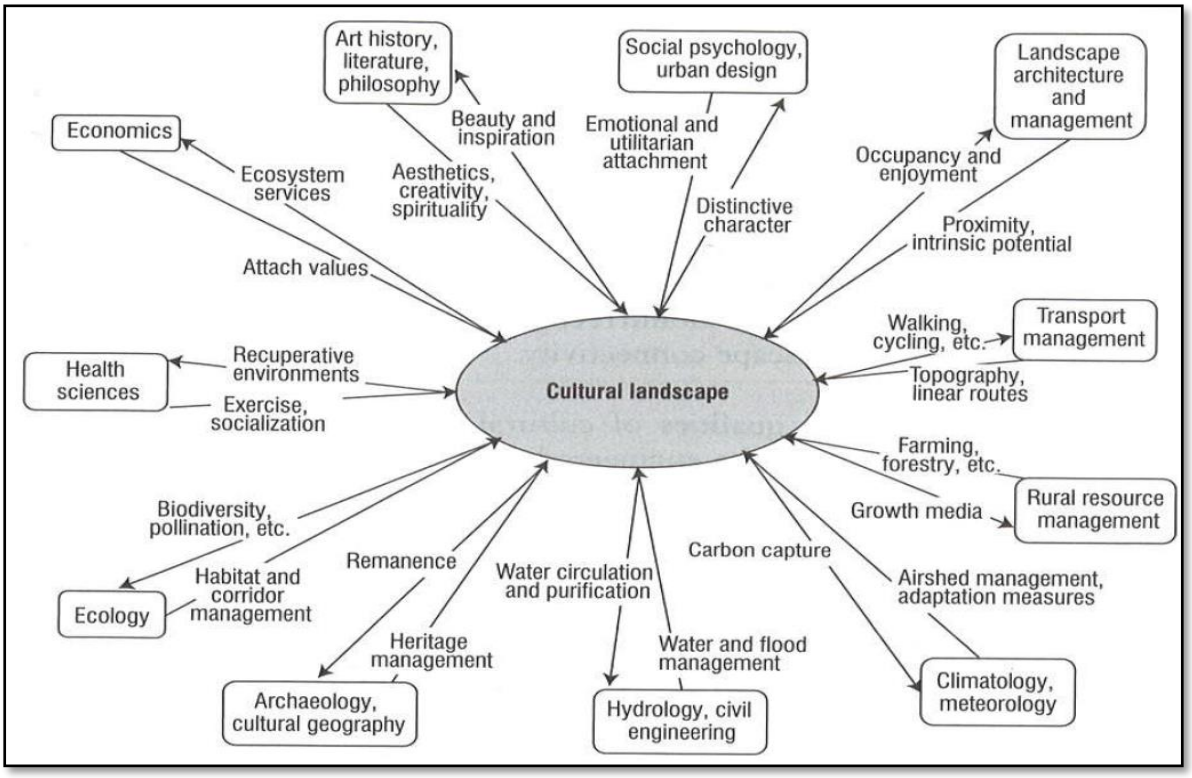


FIGURE 3.4: INTEGRATION OF THE MULTIPLE FIELD OF KNOWLEDGE IN CULTURAL LANDSCAPES

Source: Selman (2012, p. 19)

Cultural landscape is also said to possess ‘seen’ and ‘unseen’ relationships as illustrated In Figure 3.5. Additionally, several of the landscape relationships, processes and practices, such as spirituality and sense of community are largely beyond the view. A number of examples shown by Selman (2012) to be somewhat beyond the view, are aesthetic and ecological processes, while those like natural landforms and human-made structures are entirely within the view.

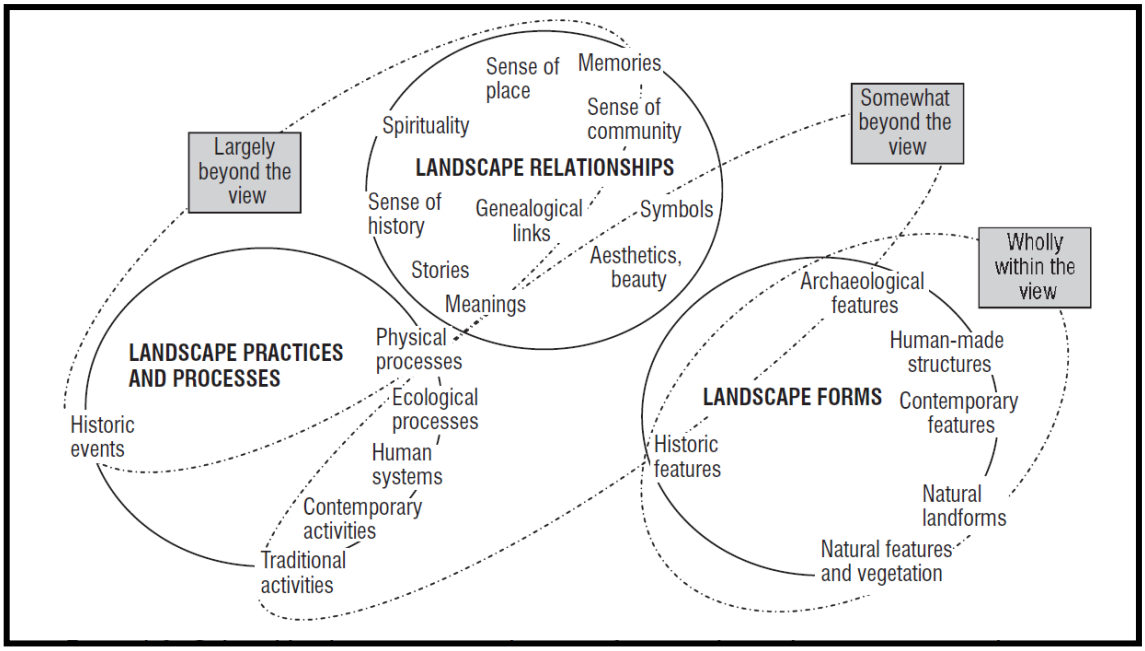


FIGURE 3.5: SEEN AND UNSEEN FORMS, RELATIONSHIPS, PRACTICES AND PROCESSES IN CULTURAL LANDSCAPES

Source: Selman (2012)

3.3.3 Future cultural landscapes

Managing cultural landscapes has become essential, in order to stop current accelerated biological and cultural landscape degradation (Naveh, 1995). A number of worldwide environmental problems have been associated with the disconnection between man and nature, and moreover, have led to the overexploitation of nature and a decline in the character of the landscape, in both rural and urban landscapes. Furthermore, it also reduces a sense of personal urgency and has a negative impact on health, fitness and wellbeing. Therefore multiple disciplines, as revealed in Figure 3.4 are required, in order to arrive at the prospect of reconnection in cultural landscapes. This disciplinary integration is necessary to produce the knowledge that is required to understand the nature of disconnections (Selman, 2012).

In envisioning future cultural landscapes, it has become increasingly necessary to accommodate emerging issues, contexts and themes created by the behavioural patterns of both humans and other species. Landscape though referred to in the singular, actually represents many settings, according to Roe and Taylor (2014)

and is not merely a repository of evidence but is continuously changing and reflecting contemporary lifestyles and concerns.

The various ways cultural landscapes are conceived and experienced need to be understood, as past layers of activities tell the story of the present cultural landscape. However, by focusing on a bigger landscape scale beyond that of a site, one is able to understand species, environmental conditions, etc. better (Roe and Taylor, 2014). In order to evolve an alternative relationship with landscape, future cultural landscapes will also be influenced by whether the agents of change are natural or human. In primarily indigenous landscapes, for example, local knowledge is essential for human survival (Melnick, 2014). The author further forecasts how future cultural landscapes resulting from environmental conditions, for instance climate change will still be shaped by climate change, as well as by any human intervention, practices and traditions

A new cultural landscape created from degraded landscapes, particularly in Europe, might provide possible opportunities for communities, who lost the landscape in the first place (Davies, 2014). If left undisturbed, such landscapes may regenerate into celebrated heritage sites. They could also provide a setting for creative regenerative works, such as landscape arts, in addition to projects that engage the community through partnering and participation, and consequently address governance and political issues. Regenerative projects offer not only job opportunities for many professionals, such as ecologists, artists, landscape architects and project managers, but also the privilege of participating in reshaping communities (ibid).

Therefore in creating future cultural landscapes, Roe (2014, p. 246) summarised the emerging themes as follows:

a) Landscape as process: quality and relationships
b) Change
c) Interaction, consumption and practice
d) Power and control: justice, politics, involvement and democracy
e) Linkages – past, present and future values

The themes were derived through research, experience in practice, theory and viewpoints and represent various alternative views from a variety of professionals,

with the intentions to help create a '*new culture of landscape'* for comprehension *by policymakers, landscape managers, politicians, academics and those with interest in the subject* (ibid).

3.4 Perspective on landscape change

Change is a characteristic of landscape given that landscape is the visible sphere for the effects of both society and nature (Selman, 2012a), both of which are dynamic (Bürgi *et al.*, 2004). Landscapes being dynamic consequently reflect exchanges between many different constituent elements, as illustrated by the diagram on a systems view of landscape change (Figure 3.6). It is a simple representation of how processes, in either culture or environment, or the relationships between these processes lead to landscape change. It also illustrates how landscape change can be an input into either culture or environment or both. Antrop (2005) mentions that the consecutive reorganisation of land results from these dynamic alterations and interactions, which cause landscapes to change and thus, adapt to changing societal demands.

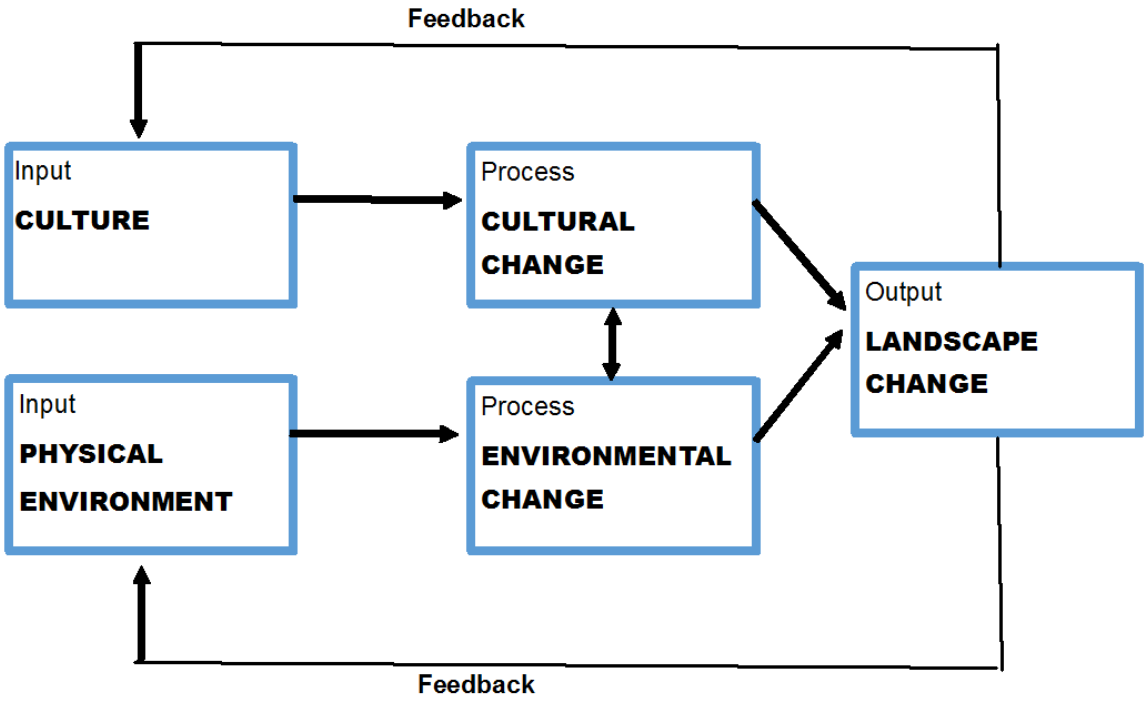


FIGURE 3.6: SYSTEMS VIEW OF LANDSCAPE CHANGE

Source: Brandt et al., (1999)

Wood and Handley (2001) explain how the character of a landscape in its form and function is a direct reflection of changes in its economy and society. They further trace landscape dynamics to its evolution from the relationship between humans and the environment. The character and condition of the landscape is also the product of the analysis between the interaction of its pattern, process, structure and functions. Furthermore, definitions of these relationships help to substantiate and define the tasks for landscape planning, design and management (ibid). Landscape changes are most often visible in places with severe environmental problems. The causes, processes and effects can be studied to draw the attention of policy and planning (Schneeberger *et al.*, 2007) These processes are not one-dimensional but multi-directional, where one element of the cycle engages in continuous feedback with another. Hence, landscape analysis and planning results in landscape forms derived from landscape formation processes, which are also a result of the landscape functions (Terkenli, 2001)

3.4.1 Driving forces of landscape change

Changes in landscapes are driven by various forces and actors generally referred to as drivers. The term driver generally refers to any natural or human induced factors that directly or indirectly cause a change (Millennium Ecosystem Assessment Board, 2005). The strength of a driving force alters over time (Schneeberger *et al.*, 2007) as different collections of actors and driving forces influence differences in direction and rates of change. Therefore, identifying the decisive actors and driving forces and their resultant landscape change is useful in relation to landscape planning.

This could be understood through a historical perspective, which according to Bürgi *et al.* (2004) possess the potential for process analysis. Processes have a temporal component, which could expose the specific landscape's evolutionary patterns; thus, providing the description, prediction and prescription required for landscape planning. Valuable information from such history reveals the ecological, cultural and keystone processes that could be useful for managing cultural landscapes and moreover for restoration ecology (Marcucci, 2000; Bürgi *et al.*, 2004; Antrop, 2005). Similarly Schneeberger *et al.* (2007) comment on how the historical perspectives could indicate the different actors and driving forces that had contributed the most

to landscape change. These could be extremely useful for present and future landscape planning and policy. Given that past landscapes are the result of historical cultural values, future landscapes will result from collective values and beliefs.

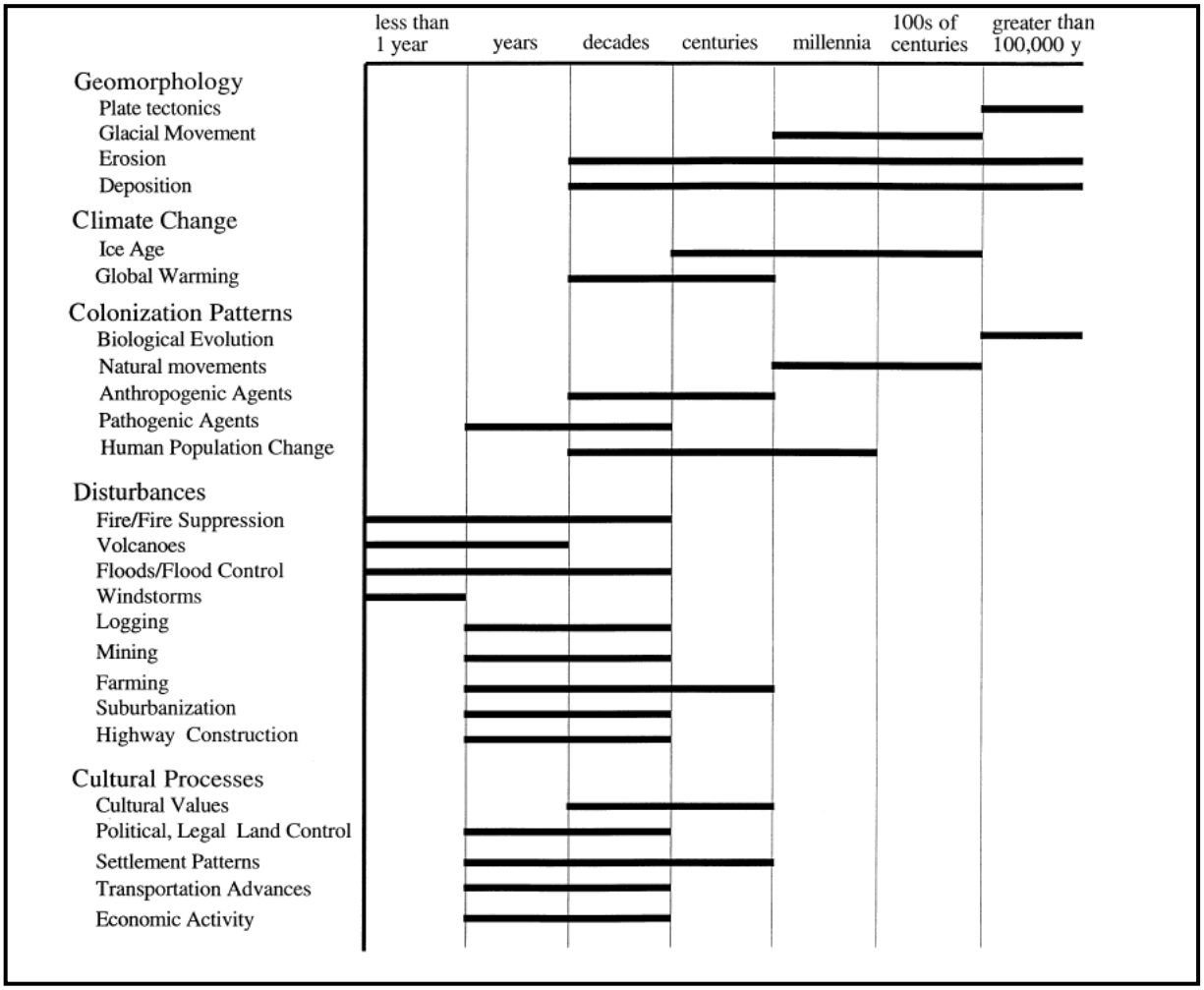


FIGURE 3.7 LENGTH OF TIME SELECT KEYSTONE PROCESSES AFFECT LANDSCAPE CHANGE

Source: Marcucci (2000, p. 73)

A historical understanding of changing human cultures is therefore required with respect to planning community regeneration. The call to understanding the place in history regarding landscape planning dates some sixty years back to MacKaye (1962), McHarg (1969), Hackett (1971), Fabos (1979) and others. Hackett (1971) for example identifies studying landscape evolution as one of the four operations

in his landscape planning techniques. It has the potential to enhance the inventory stage by revealing ecological, cultural and keystone periods; hence, explaining the interaction of nature and culture over time (Figure 3.7).

3.4.2 Types of driving forces

Broadly speaking the drivers of landscape change can be distinguished by whether they are natural or induced by humans. Depending on the focus of the landscape research, driving forces could also be classified in different ways as undertaken by Antrop (2005) using globalisation, accessibility, urbanisation or forces of calamity; for this reason the driving forces are induced by humans. Wood and Handley (2001) identify obsolescence and dysfunction as two different driving forces in a landscape, where parameters with regards to landscape management are to be devised around the condition and character of the landscape. Humans, shrimp farming, policy change and disturbances have all been identified as drivers of change in one study or another (Etter *et al.*, 2008; Larsen *et al.*, 2011). The researcher therefore is of the opinion that there are no hard and fast rules on how the drivers of landscape change are identified or classified, although they could generally be seen to be induced by humans or nature.

Five major categories of driving forces have regularly been identified. These are socioeconomic, political, technological, and natural and cultural (Bürgi et al., 2004; Schneeberger et al., 2007). It should also be noted that demography and living standards are added under cultural driving forces. The explanations being that people's needs, attitudes and values dictate population development, as well as growth and migration in the landscape. Nevertheless, there are other studies which accentuate demography as an independent driving force (Wear and Bolstad, 1998; Pahari and Murai, 1999). In classifications created by Schneeberger et al. (2007), the demographic is embedded in the cultural and the "*cultural is [perceived] as one of the most complex dimensions of environmental change and usually remains a vague concept*" (Bürgi et al., 2004, p. 859). However, as a driving force of landscape change there is an unquestionable imprint of culture on landscapes (ibid).

The political and socioeconomic driving forces are strongly interlinked given that political programmes are usually expressions of socioeconomic requirements and moreover, socioeconomic needs are primarily rooted in the economy (Bürgi et al., 2004). Technology too has an enormous impact on landscapes as can be seen in, how roads and railways have distinctive impact on settlements. Additionally, Bürgi et al. (2004) have also forecast the important part information technology would play as a driving force in future landscape change.

Site factors and natural disturbances are the two distinctive types of natural driving forces. The former for example consists of topography, climate and soil characteristics, while the latter could be slow or fast-acting, such as global warming for the slow acting, and furthermore, avalanches, hurricanes, mudslides and earthquakes for the fast acting natural disturbances. Site factors according to Bürgi et al. (2004) are short-range stable but long-term variable (p.859).

Schneeberger et al. (2007) also suggest that comprehensive discussions on landscape change and its driving forces must occur at a highly aggregated level to keep complexity under control. They explained how landscape information can be aggregated in many ways, for instance structure-orientated using landscape metrics and also through several more dynamic approaches from which major changes in the landscape structure and processes can be deduced. They observed that the process-orientated was more appropriate as '*the processes of change are easily identified and are at the centre of interest'* (Schneeberger et al., 2007, p. 350).

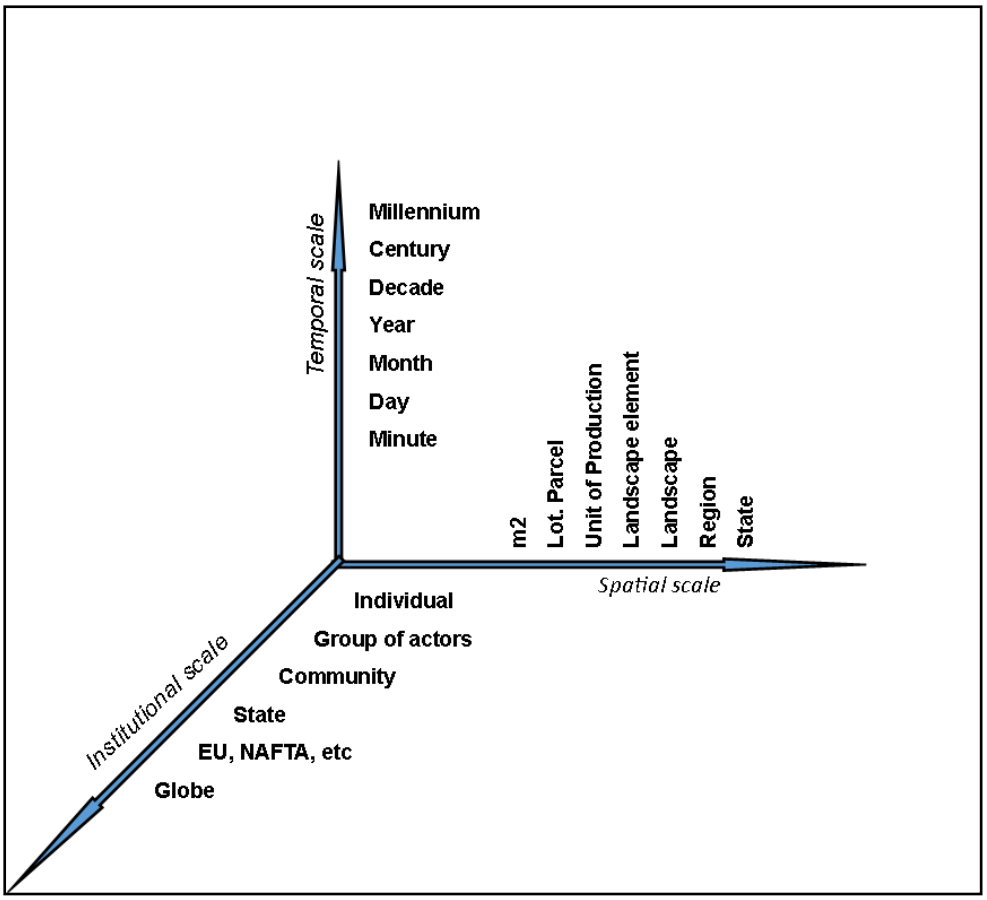


FIGURE 3.8: SPATIAL, TEMPORAL AND ORGANIZATIONAL SCALE OF THE SYSTEM UNDER STUDY

Source: Bürgi *et al.* (2004, p. 860)

Bürgi *et al.* (2004) however observe that what constitutes the driving force of landscape change regarding a system under study, range from the spatial, which extends from the unit of production to states and the temporal, which covers the time axis from minutes to millenniums, in addition to the institutional scale, which is the axis from the individual, to the community and subsequently the world (Figure 3.8). Therefore, an appropriate scale of investigation is required for every system under study. It is impossible to comprehend all the aspects influencing landscape change seeing as "*driving forces characteristically have to be interpreted in nested scales of explanation"* (p. 859).

3.4.3 Classification of driving forces

Though studies could be limited to the effect of just one driving force, there are predominantly other factors behind the one directly driving a change; therefore, primary, secondary and tertiary driving forces could also be distinguished. The extrinsic and intrinsic driving forces would also explain changes occurring within the context of a specific landscape. The extrinsic drivers are the legislation and regulations governing the levels of the state or internationally, while the intrinsic apply to the municipal and community levels. Intentional and accidental landscape changes also need to be distinguished, as landscape change does not always result from intentional or planned actions; in fact it could be an unexpected side effect (Bürgi *et al.*, 2004).

3.4.4 Characteristics of driving forces

Driving forces however are said to form a complex system of dependencies, interactions and feedback loops affecting several temporal and spatial levels making them difficult to analyse adequately. Bürgi *et al.* (2004) and Schneeberger *et al.* (2007) identified two aspects: first in relation to the question of scale and second in aggregating the driving forces on an appropriate level of detail as they were enormously numerous. As a specific landscape change and its rate are determined by a particular combination of actors and driving forces, identifying is as important as understanding their relationship, principally over time, although not too long a time, as it is likely that these relevant actors and forces change over time.

3.4.5 Constellation of actors and driving forces as challenges to studying landscape change

Schneeberger *et al.* (2007) distinguish between actors and driving forces. Actors are the decision-making and mediating agencies, for instance institutions, boards, individuals or agencies, whereas the driving forces are the (sometimes materialised) expression of these decisions or acts, for example, law subsidies or mechanisation.

Landscapes are dynamic and so are societies (Bürgi *et al.*, 2004); consequently, studies on the interaction between the two will be complex because changes in

landscape are an expression of the dynamics in the relationship between nature and culture (Swanwick, 1989; Antrop, 2005; Swanwick, 2009). Bürgi *et al.* (2004) indicate that these complexities in the study of landscape change create identified challenges. Schneeberger *et al.* (2007) identify four challenges that studies on landscape change research are confronted by. They are

i. Studying processes and not mere spatial patterns

Analysis of spatial pattern and scant attention to landscape function and processes has been a bias of the field of landscape ecology until recently. Bürgi *et al.* (2004) explain how the understanding of landscape change requires sound knowledge underlying its processes. Hence, it is recommended that more attention be focused on landscape functions and consequently processes, and not only on the documentation and analysis of spatial patterns.

ii. Extrapolating results in space and time

Actors, context, processes, scale and resolution make landscape studies highly specific. There is the need to be able “to transfer results from one landscape to another and extrapolate results in time” (p. 864).

iii. Linking data of different qualities

The problem of handling data from different sources should be addressed to allow for the merging of both qualitative and quantitative data. In studies of landscape change over time, two distinct pathways become obvious. One is a study focusing on the impact of humans, as one of many influences, which is appropriate for a particular single habitat. The other type of study focuses on interpreting the relationship between man and the environment. Schneeberger *et al.* (2007) have therefore drawn attention to the importance of the integrative perspective that will arise from the study of the connections between people and their environment, principally in altered environments, where one is interested in changing societal demands.

iv. Considering culture as a driver of landscape change

The influence of culture on landscape appears understandable when viewing landscapes across continents. The understanding of landscapes and Regions requires the appreciation of the relationship between people and their environment. It has been observed however that convincing approaches to integrate these cultural dimensions into landscape change studies have not been visible. Culture

though is a vague concept "*but one of the most complex dimensions of environmental change*" (Schneeberger *et al.*, 2007).

3.5 Conclusion

This chapter identifies the key role of the intersecting issues of people, cultures and change in creating landscapes and envisioning future landscapes. It reviews significant literature and theories and provides an understanding of the complexity and challenges in this area of research. It extracts and examines the relevance of culture not only in structuring landscape but in envisioning or constructing future landscapes. Furthermore, it indicates how managing cultural landscapes could stop current biological and cultural landscape degradation.

The chapter therefore identifies tangible and intangible landscape values and forms of relationships, in addition to illustrating how different fields of knowledge are integrated in understanding cultural landscapes. Towards conceptualising future landscapes for the oil and gas exploration Region; the chapter draws from the role of transdisciplinary integration regarding the prospect of the reconnection of people to landscapes through past understandings thus providing a better understanding of species, environmental conditions and landscapes for the future. As landscape is affected by society and nature, change becomes an apparent characteristic of landscape. Therefore, this chapter draws on relevant literature to explore the theories and concepts of landscape change, its characteristics and the classification of its drivers, forces, actors and processes. This provides an important basis for examining the oil and gas exploration Region of the Niger Delta because of its drivers of landscape change and the constellation of driving forces, which impact on the predominantly rural cultural landscape.

4 Chapter 4. Nigeria and the Landscapes of the Oil and Gas Exploration Region

"*Oil creates the illusion of a completely changed life, life without work, life for free…the concept of oil expresses perfectly the eternal human dream of wealth achieved through lucky accident".(Kapuściński, 1982, p. 35)… But would that be true for all stakeholders?*

4.1 Introduction

This chapter presents the context for the empirical research and provides essential background data on the communities in the exploration Region. It presents Nigeria in relation to the global and national petroleum industry and the socio-political landscapes thereby created as a result of the activities and impacts of this industry on the communities in the exploration Region.

4.1.1 Nigeria: Geography and Political-economy

Nigeria is located on the west coast of Africa and has borders with Niger to the North, the Republic of Benin to the west, and Cameroon and Chad to the east. Furthermore, situated to the south is the Gulf of Guinea in the Atlantic Ocean with a coastline that stretches for 853kms (Figure 4.1).

a) Climate and vegetation

Nigeria spans diverse climatic and ecological zones by virtue of its geographical extent; thus, endowing it with renewable energy sources and rich biodiversity (Kankara, 2013). It ranges from arid in the North, tropical in the centre to equatorial in the South. The centre and the south are close to the equator (Kafayat *et al.*, 2015). There are two basic seasons: one is the rainy season, which is brought about by the southwest monsoon winds carrying moisture from the Atlantic Ocean inland from April to October. Furthermore, the precipitation decreases to approximately 500mm from 3000mm annually, as the wind moves north; thereby, reducing the amount and shortening the duration of the rainy season from 290 to 90 days. The dry (Harmattan[4]) season is between October and March and is

[4] A cold dry northeastern wind blowing from the Sahara Desert over West Africa into the Gulf of Guinea

influenced by the dry northeast trade winds that blow from the Sahara Desert towards the South. The mean annual temperature ranges from 20^{o}C in the South to 40^{o}C in the North with lows of 15^{o}C and highs of 50^{o}C**.**

The Atlantic Ocean and the Sahara Desert also have an influence on the vegetation. It becomes drier from the south towards the north and therefore, has climatic zones spanning latitudinal bands (Figure 4.2).

FIGURE 4.1: NIGERIA SHOWING STATES AND GEOPOLITICAL ZONES

Source: NationMaster (2015)

The Sudan Savannah of short grass at the topmost part of the north descends into the Sahel Savannah consisting of tall grass, then there is the rainforest belt towards the south. The mangrove and fresh water swamps along the coastal Regions is translated into a terrain of southern lowlands merging into central hills and plateaus, mountains to the southeast and plains in the north (Ade Ajayi, 2016).

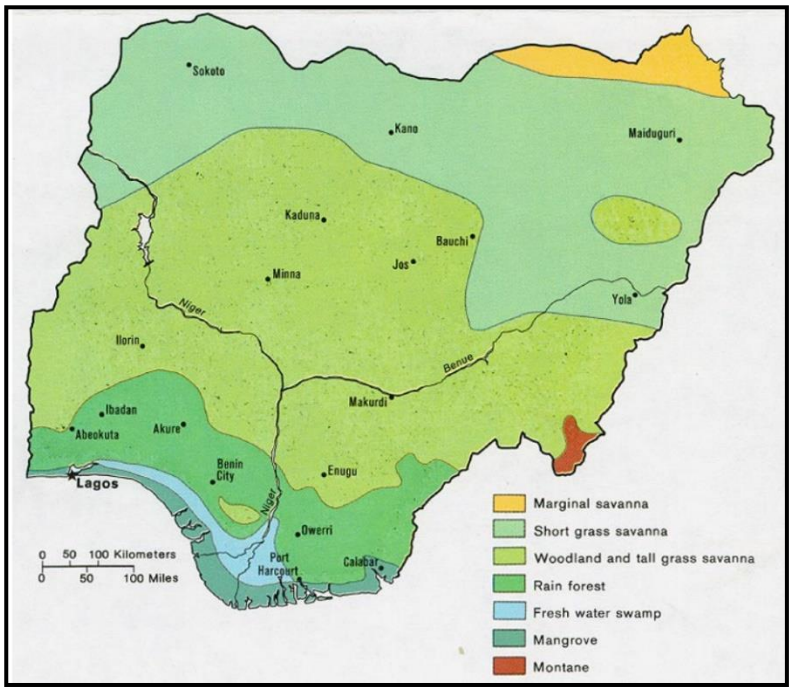


FIGURE 4.2: VEGETATION AND CLIMATE ZONES

Source: University of Texas Libraries (1979)

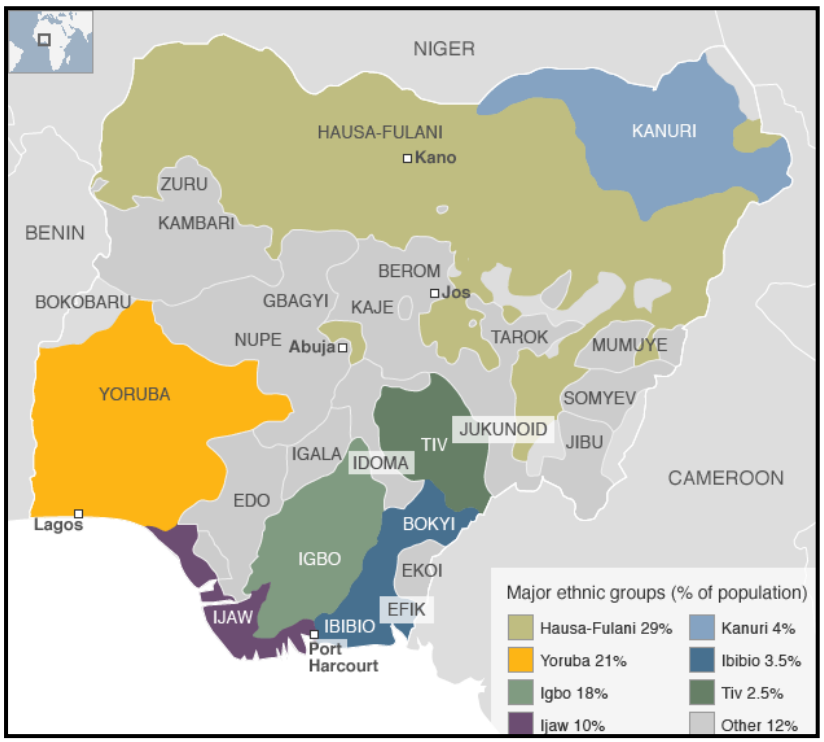


FIGURE 4.3: POPULATION AND ETHNIC GROUPS

Source: Westly (2012)

b) Demography

The population in Nigeria was estimated to be in the Region of a little over 181 million as of 2015 and therefore is one of the most heavily populated nations in Africa with 50.4% of its population residing in rural areas (2011). Nigeria has a land area of 923,768 square kilometres. Its people is as diverse as its geography and there are 389 ethnic groups in the country (Ade Ajayi, 2016), with the primary ones being Hausa, Yoruba, Ibo, Fulani, Edo, Tiv, Ibibio and English (Figure 4.3).

The United State Census Bureau estimates the population of Nigeria will be 402 million by 2050. These is over twice the current estimate and indicates that the country will be the 4th most populated in the world. Additionally, life expectancy at birth is 52.02 years; total median age is 19.2 years; 40.9% of the population is below 14 years of age; 55.9% is between 15-64 years, whilst only approximately 3% is above 65 years (Otedo, 2012). The CIA (2015) indicates that the total dependency ratio[5] was 87.7% and that of the youth to be 82.6% as of 2015. The total literacy level at the age of 15 was also noted to be 59.6%. It is vital to note that understanding the role played by demographic information is important in physical and spatial planning and responding to environmental change (Dodman *et al.*, 2013). In this instance, a huge proportion of the population lives in rural landscapes hence rural landscapes should be considered to be of equal importance as urban population. The high youth population and their high percentage of dependency means seeking and understanding their perspectives is important to spatial planning issues.

c) Economy

Nigeria is most often referred to as the 'giant of Africa' due to its growth in both population and economy. It is the most populous nation in Africa and the seventh most densely inhabited in the world. Furthermore, it also possesses one of the largest youth populations in the world with 33,652,424 young people aged between 18 to 35 years. Perhaps it is the state of its economy that earns it the name; being the world's 20th largest economy and having overtaken South Africa in 2014 to become Africa's largest economy. It has been identified by Goldman Sachs Investment Bank to be in the 'Next Eleven'. These are countries exhibiting high

[5] This is related to the number of individuals that are economically dependent on the support of others

potential along with the BRICS[6] nations of becoming the largest economies in the 21st century. Nigeria is already a member of the MINT group according to Fidelity Investments of Boston. This signifies that together with Mexico, Indonesia and Turkey, they are set to be the next BRIC – like countries.

Internationally Nigeria is recognised as an emerging market[7], a Regional power[8], a middle power[9] in international affairs and an emerging global power (Nwanesi, 2008).

In spite of these recognitions and economic diversification, 70% of its population are below the poverty line, as all these economic benefits have not translated into significant poverty decline (CIA, 2015)

d) History

Modern Nigeria was under British colonial rule in 1914 and known as the Colony and Protectorate of Nigeria. It gained its independence from the British in 1960, plunged into a civil war for three years from 1967 and kept alternating between Military dictatorship and civilian rule until 1999. It has been a stable democracy since then, although with occasional volatile periods when the people of the Niger Delta pressed hard for resource control and made the country ungovernable. However, it does appear that democracy is here to stay with the recent successful democratic elections of 2015, bringing the current democratic dispensation to 16 years of uninterrupted rule (Ade Ajayi, 2016).

4.1.2 Research context - Natural resources and Environmental Challenges

Nigeria is very rich in natural resources, such as petroleum, natural gas, tin, iron ore limestone, zinc and arable lands. Petroleum plays a leading role in the economy of Nigeria, which is the 8th largest exporter and the 12th largest producer in the world, in addition to possessing the 10th largest proven reserves. Petroleum therefore provides over 80% of government earnings and accounts for 40% GDP (Idemudia and Ite, 2006; William, 2008; Arieweriokuma, 2009; Thurber *et al.*,

[6] Brazil, Russia, India, China and South Africa represent the five major emerging economies

[7] This is a country that does not meet the standards of a developed market but has the characteristics and potential to be in the future.

[8] Nigeria has power within Africa its geographical Region

[9] It is neither a superpower nor a great power but has international recognition with a moderate to large influence.

2010). Perhaps it is the story of the exploration and exploitation of the nation's natural resources that has made Nigeria extremely notorious globally and has also provided the background for this research.

The environmental problems in Nigeria are diverse and include rapid deforestation and soil degradation, urban air and water pollution, increased urbanisation, poor waste management and loss of arable land. Records have shown that Nigeria's poor and unsustainable environmental management led to the loss of 33.7% of its forest cover within 12 years; This was the world's highest record with regards to rate of deforestation as at 2005 (Babanyara *et al.*, 2010). However, the two most pressing challenges are desertification to its north and the serious damage to soil, air and water from oil spills in the Niger Delta to its south. These have translated into increased poverty and consequently conflicts. The north of the country is battling to contain the Boko Haram[10] insurgency, inter communal clashes and inter religious conflicts have bedevilled the middle belt Region, while the south has had a long history of youth unrest and general agitation for resource control or even secession (Ikelegbe, 2001; Idemudia, 2007). These problems, though seemingly socio-economic in nature, have had an impact on the landscape. These conflicts in the Niger Delta for example have not only resulted in the disruption of oil production and prevention of exports at full capacity, but worse than this and of focus to this research is the massive environmental damage and the dislocation of the communities and their well-being and means of livelihood. The following section positions petroleum exploration in a global context and briefly describes the emergence of the industry in Nigeria.

4.1.3 Economic impact of the global petroleum industry

While the world awaits the discovery of alternative sources of energy in economic quantities, hydrocarbons are predicted to continue to dominate and influence economic, politics and social activities of the world for many more years (Thurber *et al.*, 2010). Since their discovery, oil and gas have influenced the economy of both oil-producing and oil importing countries and have impacted upon their politics worldwide. The discovery of these crucial sources of energy has also led to

[10]Boko Haram is an Islamic extremist group based in north eastern Nigeria which also operates in Chad, Niger and Cameroon.

unprecedented advancement in industry and transportation and made life more straightforward at the household level through the provision of electricity, ease in cooking, heating and so on (BERA, 2013).

Petroleum has global relevance economically as well as for Nigeria. While ranking world corporations, Fortune Global 500 has placed at least two petroleum refining companies, Exxon Mobil and Chevron in the top ten rankings for almost a decade[11]. In 2015, five corporations in the petroleum refining sector made the top ten. These corporations have subsidiaries worldwide and the story of petroleum exploration in Nigeria cannot be narrated without mentioning Shell Petroleum Development Company, Mobil Producing Nigeria and Chevron, which continually make the global 500 top ten in different years and are the major players in the petroleum industry in Nigeria (BERA, 2013; Hassan, 2013). Thus, Nigeria has a strong established presence in global petroleum exploration.

4.1.4 Influences of Oil and Gas on Global and National Power Politics

Until the tail end of the 20th century when huge deposits of oil reserves were discovered in the Middle East, Africa, Asia and Europe, America, Russia and the Dutch East Indies dominated global production. The new frontier for oil from 1940 and 1960 was Africa and the boundary in Nigeria was discovered in 1956 (Hassan, 2013). The manufacture of such products as automobiles and factory machines saw the rise of other by-products beside kerosene, such as gasoline, diesel and gas. The rise of other products and the demise of Standard Oil - which had controlled the price of oil for almost 20 years to the dissatisfaction of consumers - saw to the rise of the seven sisters[12].

Oskarsson and Ottosen (2010) trace some of the global impact of the oil industry on democracy including the power politics of Latin America; the Arab Spring crisis in the Middle East; through Central Asia and the new great game, to China's investments in Africa. Therefore, the impact of oil and gas on producing as well as importing countries can be observed in numerous historical events and similarly on

[11]The Fortune Global 500 ranks the world's top 500 corporations measured by revenue.

[12]These are Chevron (former Standard Oil of California), Exxon (former Esso and Standard Oil of Jersey), and Mobil (former Standard Oil of New York) which are amongst the current prominent multinational corporations also operating in Nigeria. The other members are British Petroleum (BP), Gulf Oil, Royal Dutch Shell and Texaco. Chevron and Texaco have merged so there only five sisters at present.

the landscapes of the nations or Regions, which are affected by improved welfare, boom and economic growth or alternatively by war and recession. A current example is in the Middle East, which is war torn between ISIS[13] and regimes in the Region. This conflict has a global impact, by the end of 2015, it had introduced an unprecedented type of global refugee crisis for Europe.

In Nigeria, the impact of the degradation on the landscape of the Niger Delta Region by oil exploration orchestrated the changed democratic dispensation of 2011. Goodluck Jonathan emerged as president from the minority groups from the oil and gas producing Region of the country. This had an unprecedented impact on the political terrain of Nigeria and was attributed to power politics as a result of the crisis in the oil and gas Region.

4.1.5 *The emergence of oil and gas industry in Nigeria*

Prior to the discovery of oil deposits in commercial quantities in Nigeria, which was under British colonial rule, a German company known as Nigerian Bitumen Corporation was prospecting in 1908. A British colonial petroleum law, the Mineral Oil Ordinance of 1914, which took effect after World War I "vested the right to search for, win and work mineral oil only in British corporations or companies controlled by British subjects" (Okonmah, 1997, p. 44). Oil prospecting therefore resumed in 1937 through Shell D'arcy now Shell Petroleum Development Company (SPDC), which was given sole concession rights to prospecting in the entire Nigerian landscape. The prospecting was disrupted again during World War II and resumed in earnest in 1947. Oil was later discovered in commercial quantities at Oloibiri in 1956, in the present River State in the Niger Delta Region (Idemudia and Ite, 2006).

In the early 1950s with the dissolution of the sole concessions to Shell, other major participants in the industry obtained licences to prospect; hence, the Mobil Oil Corporation (operating in the case study area) joined in prospecting in 1955, Texaco overseas in 1961, Elf and Agip both commenced operation in 1962 and Phillip Oils in 1963. Exporting oil in profitable quantities began in 1968 (Okonmah,

[13]ISIS stands for Islamic State in Iraq and Syria and is frequently known as Daesh or ISIL. They are considered to be an extreme organisation trying to force their own version of Islam on an entire Region and beyond.

1997). The oil giants, particularly Shell, which is being an Anglo-Dutch company, has been the most dominant and has its tentacles in the Nigerian Government, according to Thurber *et al.* (2010).

4.2 The Third Stakeholder Group– the host communities

There are three stakeholder groups in Nigeria with interests in the oil and gas landscapes. These are the Federal Government of Nigeria principally represented by NNPC, then the multinational oil corporations and the host communities and this section describes how their politics has impacted on the exploration landscape.

4.2.1 The first two stakeholders' influence on the petroleum resources

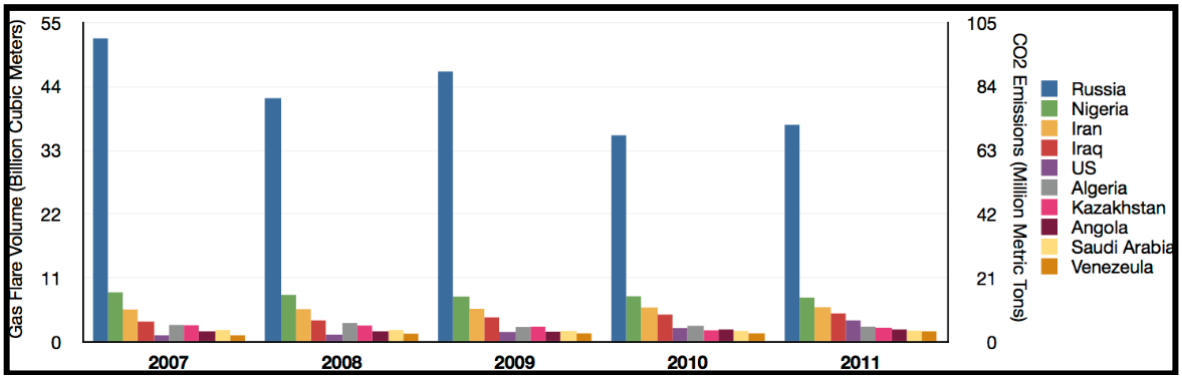
The story of the oil industry in Nigeria is a story of power play between the first two stakeholders as "*they struggle for economic space to further extraction of resource benefits"* (Ikelegbe, 2006, p. 212). These stakeholder are: stakeholder one the Federal Government of Nigeria and stakeholder two the multinational corporations (Idemudia, 2009). The Nigerian National Petroleum Corporation (NNPC) represents the Federal Government of Nigeria as stakeholder one. As a full member of the Organisation of Petroleum Exporting Countries (OPEC) it gained the support accorded members to enhance greater benefit by securing robust national control over their resources. This had earlier been a major impediment (Thurber *et al.*, 2010; Hassan, 2013). The NNPC was formed in 1977 and sat at *"the nexus between the many interests in Nigeria that seek a stake in the country's oil riches, the government and the private companies that operate most oil and gas projects"* (*Thurber et al., 2010, p. 5)*. In addition, by means of its membership of OPEC, Nigeria joined a clique of nations that had significant influence on the foreign policies of many powerful nations, which could consequently determine whether there was to be inflation or depression in countries around the world (ibid)

4.2.2 Impact of the exploration activities on the host communities

The environment of the host communities, which is that of the exploration activities still remains degraded from environmental pollution caused by the oil and gas

exploration activities. The development of Nigeria's gas sector for example was slower than others of similar potentials around the world (Table 4.1).

TABLE 4.1: VOLUME OF GAS FLARED (LEFT AXIS) AND EQUIVALENT CO2 EMISSIONS (RIGHT AXIS).



Source: Ebrahim and Friedrichs (2013)

As most of the gas was associated gas[14], over 95% of it was flared. Therefore, for about three decades Nigeria's gas was lost through flaring. This continued even when Nigeria became a Liquefied Natural Gas (LNG) exporter by 1999. The gas flaring has caused irreparable damage to the environments of operations and has become part of the daily landscape (Figure 4.4 and 4.5). The damage is still occurring though presently gas production has increased in more controlled environments (Thurber *et al.*, 2010).

[14] Associated gas refers to the natural gas found in association with crude oil within the hydrocarbon reservoir. It could be present above the oil in the reservoir as a "free cap" or could be dissolved in the oil.

FIGURE 4.4: GAS FLARING AS PART OF EVERYDAY LANDSCAPES

Source: BBC (2005); Chigbo (2012); Murdock (2012)

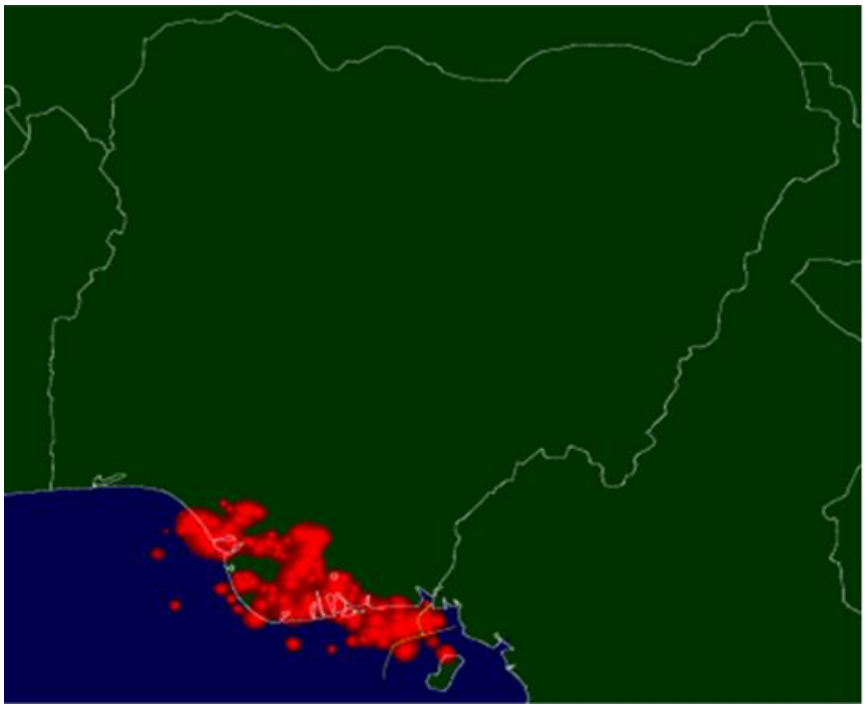


FIGURE 4.5: SATELLITE PICTURE OF GAS FLARES IN THE NIGER DELTA

Source: Ebrahim and Friedrichs (2013)

While Okonmah (1997) points out how pollution is said to be inevitable in such areas of exploration, Ikelegbe (2006) explains the dimensions of the problems through his economics of war thesis, which presents the problems as the price to be paid by the people of the oil producing communities. It is also worth noting that over the years, the people of the Region have demonstrated their resentment by forming militant groups (Figure 4.6) in order to sabotage production by attacking oil installations; the latest being the Niger Delta Avengers (NDA) who aim to cripple the nation's economy if their demands are not met (Ewokor, 2016). The groups are also into hostage-taking (as illustrated in the cartoon of Figure 4.7) amongst other high level economic crimes (Ikelegbe, 2006; Ibaba, 2008; Adoba, 2014).

FIGURE 4.6 MILITANCY IN THE NIGER DELTA REGION

Source: Akinloye (2016)

FIGURE 4.7: CARTOON ON HOSTAGE TAKING IN THE NIGER DELTA REGION

Source: Adoba (2014)

TABLE 4.2: IMPACTS OF NOMINAL OIL PRICE HIKES (U.S. $)

	Oil Prices			Direct Impact on Net Trade Balance of Advanced Countries	
Episode	Pre-hike[1]	Post-hike[2]	Change	*(U.S.$ Billions)*	*(% of GDP)*
1973 to 1974	3.2	11.6	8.4	-88	-2.6
1978 to 1980	13.3	36.6	23.3	-232	-3.7
1989 to 1990	17.9	28.3	10.4	-38	-0.2
1999 to 2001	17.9	29.0	11.1	-96	-0.4

Source: IMF Research Department (2000, p. 41)

Just as the environments of the oil producing countries were becoming volatile, the importing countries were becoming restless because of periodic world oil shocks as demonstrated in Table 4.2. This was result of the impact of the high price on the global economy and political environments (BERA, 2013). The wars in the Middle East starting from the U.S-led invasion of Iraq in 2003 and other instabilities, such as the Arab Spring, which began in 2010 in the oil-producing Regions, were destabilising the prices of the product and leading to genuine oil shortages.

Therefore, the oil resource issue was developing into a problem for both producing nations and consuming nations alike.

4.2.3 *Resource or a curse; conflicts in the Niger Delta Region*

The oil and gas related considerations infiltrated politics in Nigeria and was said to have been the strong, yet subtle reason for Nigeria's civil war from 1967-1970 (Thurber *et al.*, 2010). Numerous military regimes in the country prior to 1999 toppled democratic governments and as with other developing and oil producing nations, oil was seen in Nigeria to further hinder democracy. The civil war in Nigeria is said to have had the long term significant impact of strengthening the government's control on the resource, while the landscape of the Region continued to be devastated and of concern to the host communities (ibid).

As the Military Regime acted as dictatorship there was no elected representation. Hence there was no one to adequately express the collective interest of the people of the Region. The ability of the oil-producing communities to seek redress or amelioration of their suffering through dialogue with government was negligible. The sensitive situation caused by the scourge of the oil pollution led to civil unrest which resulted in arbitrary arrests, intimidation and incarcerations of those involved or sympathetic to the cause (Okonmah, 1997). Ikelegbe (2001) reported how the communities' anger, demands and grievances created flourishing civil societies that provided the greatest challenge to Nigeria for decades until the recent advent of the Boko Haram insurgency in 2009 (Chothia, 2015). There emerged conflicts of varying types that not only threatened the democratic dispensation at the time but also relationships such as that between oil based states and their communities; the states with their civil societies; as well as between civil societies/communities with multinational oil companies (Ikelegbe, 2001). The 2013 fieldwork data in this research recorded that even relationships amongst community rulers and those between the rulers and the ruled were also under considerable tension.

While the world economic environment was witnessing an increase in the demand for the resource, the resource has become less of a blessing and more of a curse (Okonmah, 1997; Watts, 2004) for the Niger Delta Region. This is as a result of the intensification of the explorations onshore and offshore and the inability of the

Federal Government to protect the people from the multinational operators, who conduct their activities with a total disregard for the ecology. Exploration undertaken by the multinational corporations had left a severely degraded environment (Figure 4.8) that had gradually eaten into the general wellbeing of the communities within it. This was due to the fact that the Federal Government, which was part owner of the companies, had not put in place adequate regulatory mechanisms to protect the communities or their landscapes (Figure 4.9).

FIGURE 4.8: TWO MEN IN AN OIL SLICK COVERING CREEK IN BODO

SOURCE: PRODUCTION OF REUTERS (2015)

Some policies enacted by the Federal Government were even seen to exacerbate the situation, for example the land use Act of 1978 designated erstwhile landowners to mere occupiers with only a certificate of occupancy. All lands in the State were appropriated by the Federal Government. The respect hitherto accorded to the communities by the multinational corporations, who saw communities as custodians of all traditional lands was neutralised as all lands were consequently transferred to the Federal Government (Omeje, 2005).

FIGURE 4.9: LIVELIHOOD AMIDST OIL INSTALLATIONS AND GAS FLARING

Source: http://www.worldofmatter.net/niger-delta-environmental#path=niger-delta-environmental

4.2.4 Host communities Revolt

The conflict in the Niger Delta Region is the extreme manifestation of what Selman and Knight (2006) would term a vicious cycle and a representation of the role of poverty, the geography of oil and the impact of environmental degradation (Watts, 2004; Omeje, 2005; Idemudia and Ite, 2006; Thurber *et al.*, 2010). Ikelegbe (2001), in a study on the role of civil societies in struggles for State and democratic reforms in the Niger Delta Region by 2000, identifies some thirty-five active civic groups of various types, ten of which were solely those operated by youths. The author ascribes the conflict primarily to a contestation at two levels. At the first level, the oil based (host) communities and civil groups canvass for control of the resource and also the distribution of its benefits among the nation's constituent units. The second level is a challenge to policies and practices of the State and its multi-national oil corporation partners (MNOC) for destroying their environment, practices which are detrimental to the Region and leave people impoverished. Omeje (2005) however, reduces the contending issues underpinning the oil conflict in the Niger Delta Region to three factors; institutional, ecological and social.

a) The institutional factor

The characteristics of this factor can be seen embedded in the Federal Government's '*monopolised access to oil-bearing land'* (Omeje, 2005, p. 324) and the way it fashioned out transnational oil companies (TNOCs) access to oil. The government even provided the companies with state security and made them arrogant in the way they exploited the resource and dealt with the communities (Ibid).

The principal objective of the introduction by the government of the land use Act of 1978 and the reinforcements by relevant provisions in 1979, 1989 and 1999, ensured the entrenchment of the anti-local, open-ended and politicisation of compensation, principally with regards to oil activities (Ibid).

b) The ecological factor

This results from the characteristics of the Niger Delta landscape itself, which has two distinct ecological zones. The north is covered by a tropical rainforest and to its south rivers, tributaries and creeks transverse its coastal mangrove vegetation. Fishing is the major occupation of the riverine communities and it is carried out in the mouths of the creeks, the seas and in inland ponds, both natural and man-made. The secondary occupation is farming at a subsistence level and subsequently trading primarily by women and younger youths. Oil spills offshore pollute the waters and kill the fishes, while on shore spills pollute the land and destroy the farms; hence, inflicting damage at the precise location of greatest ecological sensitivity in terms of the productive landscape (Okonmah, 1997). This leads to environmental degradation and communal loss of means of livelihood. The effect occasionally leads to migration of population to other places where people gain menial jobs and also became involved in anti-social activities, such as prostitution and militancy by the able-bodied youths. According to Idemudia and Ite (2006) environmental factors alone cannot by themselves be the cause of conflict but the Niger Delta ecology is vulnerable and the people depend on the environment for their means of livelihood.

c) The social factor

The social factor stems from the disruption of the social and cultural life of the people by oil pollution of their environment. Oil pollution impoverishes their lifestyles and introduces a threat to the security of livelihood (Ibeanu, 2000). In all

parts of rural Nigeria, natural resources provide food, shelter, medicine, tools and cultural enrichment. This has however ceased to be the case with the communities of the Niger Delta (Okonmah, 1997). The social factor here is with respect to the human-environment phase and is contributing to the conflict. The communities in the Region view government only in its quest for economic gains and not collective gain and therefore, as having failed to provide them with the protection of social, religious and cultural life entrenched in the 1979 Nigerian constitution. This contributes to the communities' sense of deprivation (Idemudia and Ite, 2006) marginalisation and exclusion from the benefits of the oil extracted from their own land.

Idemudia and Ite (2006) further report how the Niger Delta people returned to their land feeling greatly deprived after seeing the advanced development of other parts of Nigeria, which supposedly had little economic input into the nation's wealth. This resulted in flashpoints or conflicts. The people of the Niger Delta Region agitated for resource control in order to expand their access and control of the proceeds from the oil and gas exploration. Furthermore, they wanted a sovereign national conference in which to rewrite the constitutional basis for the federation called Nigeria (Onwudiwe, 1999). These problems strengthened the confrontational groups, made of unemployed youths, and generally rendered states, local governments and oil companies incapacitated (Ibeanu, 2000; Omeje, 2005; Idemudia and Ite, 2006; Thurber *et al.*, 2010). Prior to the May 2015 elections, this unrest almost brought the nation to a halt. The protesters were however able to make impact amongst which was the election of President Goodluck Ebele Jonathan in 2011. He was the first president to be elected from the exploration Region. Another effect was the sovereign national conference which was held in 2014 (Ofeimun, 2015). An entire Ministry of the Niger Delta Affairs was created in 2008 amongst other previously existing social and economic intervention programmes in place since 1960.

4.2.5 Government social action programs in response to crisis of the NDR

To address the continuous and economic conflicts in the Niger Delta Region, the Federal Government, the multinational oil corporations and international agencies put forward a series of social action programmes. The multinational oil corporations

addressed their obligation to community development through quantitative and qualitative data collected in the Niger Delta's host community and were known as Corporate Social Responsibilities (CSR) policies and strategies. The primary aim of these was to secure their social licence to operate (Idemudia, 2009).

The Federal Government has put in place on average one social action programme for the Region per decade, since 1960. These attempts

> "*to influence the pace and nature of development in the area and improve the standard of life of its people….for the most part translated into…missed opportunities, low value for money...and enormous disappointments for the communities…"(NDDC, 2006, p. 102)*

The following analysis provides further information on these social intervention programmes of the Federal Government (NDDC, 2006):

a) The Federal Governments' social development programmes were as follows:

i. The Niger Delta Development Board – NDDB (1960)

By 1958 Sir Henry Willink's Commission had recognised the unique characteristics of the Niger Delta even before oil became a critical issue and had recommended special development for the area. The board was established in 1960 to see to the developmental needs and challenges of the Niger Delta Region, which was defined as Yenagoa Province, Degema Province, the Ogoni Division of Port Harcourt and the Ijaw Division of Delta Province. It ended with no recognisable achievement and a military coup of 1966 and the civil war which began in 1967.

ii. The Niger Delta Basin Development Authority – NDBDA (1976)

This was set up to develop the Region; however, it was also unsuccessful in achieving any environmental improvements.

iii. Presidential Task Force – the 1.5% Committee (1980)

Owing to incessant agitation, this task force was set up with the aim of tackling the development problems and needs of the Delta Region and allocated 1.5% of the Federal account. It existed until the beginning of the 1985 – 1993 administration but was also ineffective with regard to addressing the concerns of communities.

iv. Oil and Mineral Producing Areas Development commission-OMPADEC (1992)

Former President Ibrahim Babangida established OMPADEC in 1992 to address the growing discontent and restiveness in the area. Thus, the allocation regarding the development of the Delta Region increased to 3% of the total federal oil revenue. Nevertheless, it was wound down by 1999 with several projects incomplete, numerous abandoned and with an enormous debt left behind.

v. Niger Delta Environmental Survey – NDES (1995)

This was initiated by the government due to rapid deteriorating ecological and economic conditions, social dislocation and tension in the Delta Region. It acknowledged the warning from the World Bank for an urgent need to protect the life and health of the Regions' communities and to halt the ecological systems from further deterioration. The survey was almost entirely funded by the oil companies led by SPDC. It aimed to provide an environmental study and a data base for the Region to include a cartographic definition of the Niger Delta Region among others with objectives, such as the description and quantification of renewable and non-renewable resources, generating data and information for formulating strategies and plans that would ensure the sustainable use of resources and the protection of the environment and livelihood.

vi. The Niger Delta Development Commission - NDDC (2000)

This proposal was initiated in 2000. Its vision included;

> *"to offer a lasting solution to the socio-economic difficulties of the Niger Delta Region" and its mission is to facilitate the rapid, even and sustainable development of the Niger Delta into a Region that is economically prosperous, socially stable and ecologically regenerative and politically peaceful" (NDDC, 2006, p. 103).*

It was provided with generous sources of funding to include:

1. From the federal government, an equivalent of 15% of the monthly statutory allocation due to member States
2. Oil and gas processing companies to contribute 3% of their total budgets
3. Member States to contribute 50% of the ecological funds due to them

4. Miscellaneous sources to include grants-in-aids, gifts, loans and donations and proceeds from NDDC assets.

The NDDC took off with the production of the Niger Delta Regional Master Plan (NDRDMP). It learnt from the past that the challenges and opportunities in the Region could be best tackled through cooperation and collaboration across all stakeholders, public, private and non-governmental.

vii. Ministry of the Niger Delta (2008)

Incessant cries and agitation by irate youths concerning poverty and environmental degradation coupled with kidnappings of expatriates and a halt in oil production led the Federal Government to create this unique ministry for the Region. It was established primarily to coordinate environment and youth empowerment policy initiatives, in addition to reinforcing the government's commitment to the Niger Delta Development Commission (Ogele, 2009)

viii. Federal Ministry of Environment – FME (1999)

This is the most powerful body responsible for addressing environmental issues in Nigeria. Though not specific to the oil and gas Region, it was the highest policy making body for the environment in the country and one of its objectives lies in the overriding concern to increase per capital income in Nigeria through the eradication of poverty. This is in recognition of the fact that significant people in the country rely on environmental resources (Kankara, 2013). Besides the federal government development programmes listed above are the following undertaken by international agencies, prominent initiatives and other organisations

b) International Agencies
    i. United Nations
    ii. World Bank
    iii. European Commission
    iv. United States Agency for International Development (USAID)
c) Other Organisations and prominent initiatives
    i. MacArthur Foundation
    ii. Friedrich Naumann Foundation

iii. Heinrich Boll Foundation

d) Oil, Gas and Services Companies

For instance, the Shell Petroleum Development Company, the largest and oldest.

e) Major Donors and Foundations

i. With respect to poverty and natural resources management and influencing policies and making livelihood improvements, for instance IFAD, FAO, UNDP, African Development Bank (ADB), Special Programme for Food Security (SPFS)

ii. The Akassa Development Model from Pro-Natural International was unique, successful and reaching out to the grass root communities.

To support the development of the oil producing Region, in addition to all of the above, were many laws and regulations by both Federal and State Ministries of Environment with the aim of promoting sustainable environmental management through various sectors (Ogele, 2009).

4.2.6 Assessment of Government Social Programmes in the Niger Delta Region

The Niger Delta Region has not lacked intervention initiatives or social action programmes. Nigeria has been partnering with nations and is a signatory to numerous agreements, protocols and conventions that aim to solve environmental problems. Nevertheless, the crisis in the Delta Region still persists. The environmental degradation remains pronounced. What then could be the obstacles to the achievement of these established goals and inputs from international, national and non-governmental organisations?

A survey of the conclusions from assessments of various scholarly articles outlines the following as general barriers to the workability of past social programmes for the oil and gas Region environments (Okumagba and Okereka, 2012). These are:

a) The 1960 NDDB was inactive because the period was of intense Regionalism and politicisation and was subsequently abandoned after the war

b) The 1.5% Presidential Task force initiated in 1980 suffered from a lack of commitment and consideration from the government
c) OMPADEC of 1992 lost to corruption and poor management
d) International agencies made and continue to make their contributions in essential fields although they are not the government
e) It is probably not too early to make an assessment of the current Niger Delta Development Commission (NDDC) established in 2000 as well as the Ministry of the Niger Delta established in 2008. With regards to the NDDC, Okumagba and Okereka (2012) aptly use the term palliative in its assessment. It has been in operation for sixteen years and is expected to be at the 3rd and ending phase of the master plan (NDRDMP). However, it is unlikely that the people's desire for poverty alleviation and environmental degradation will be met by the target year 2020.

The Niger Delta Development Commission (NDDC) has the responsibility to coordinate in a sustainable manner, the development efforts of various stakeholders in the Region. It took five years of meticulous consultation with relevant bodies to raise the master plan, whose principal components are shown in Figure 4.10. These are to be executed in three phases of five years each, spanning from 2006 to 2020 and components are expressed in short, medium and long term projections and plans. According to Okumagba and Okereka (2012), with only eight years left until its completion, efforts by 2012 only recorded the achievement of its Quick Impact Project (QIP). This slow performance has been ascribed to variables in the Niger Delta, which remains in conflict, arising from poverty and the inability of the commission to tackle sustainable development of the Region alone.

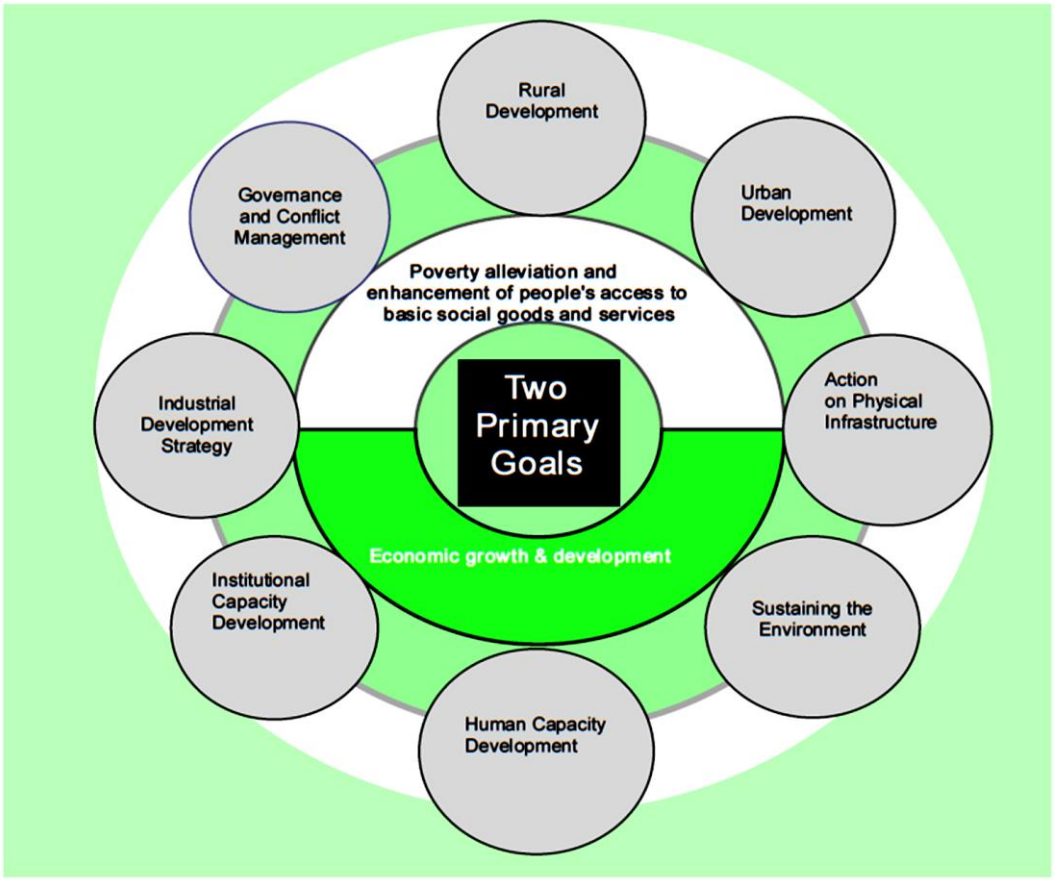


FIGURE 4.10: MAIN COMPONENTS OF THE MASTER PLAN
Source: NDDC (2006)

Physical planners observing current trends note that the NDRDMP was essentially a Regional economic development plan (Nigerian Institute of Town Planners, 2005) and that its policies and programmes for intervention "*cannot meet with the goals and objectives of a physical plan which could normally address land use issues and the conditions of the cities..." and communities (Ibeakuzie, 2005, p. 62)*. In addition, the town planners observe and caution that most of the challenges of the NDR are at present related to physical planning and advise that in order to achieve the desired change, the perspective must change. The opinion is that it is physical planning that could make a positive impact on that change. To this effect Olukesusi (2005) implores planners in the oil producing areas to exert pressure on the government "*for the necessity of preparing physical development plans for the numerous settlements in the area… towards improved liveability of the Region and in particular and sustainable development in general*" (Olukesusi, 2005, p. 62).

4.2.7 Building an argument for the sustainable futures landscapes of the Region

Despite the statistics in connection with environmental and developmental projects, the NDDC is yet to live up to expectations. This is expressed continuously through the conflicts and ethnic militias that pervade the Niger Delta (Omotola, 2007; Ojakorotu, 2009a; Ojakorotu, 2009b; Okumagba and Okereka, 2012). There appears to be a missing piece to the puzzle and that could probably explain why despite changes in programmes over decades, things remain the same or are even worse. Could the challenges to the NDRDMP arise from its framework and strategy? The NDDC (2006) indicates that;

> *"this is clearly a far cry from traditional land use planning which focuses on the physical picture of an end-state…is an integrative development plan…focuses on real life processes of change which inherently involve the physical, economic, social legal, and institutional aspect" (p. 118).*

How will the physical aspects of the master plan be articulated with the absence of traditional land use planning or any form of physical development planning? Information in Two Tables, 4.3 and 4.4 extracted from literature (Ikelegbe, 2001; Omotola, 2007) could be employed to explain simply why the focus of the NDRDMP has a missing component in relation to addressing the demands of the Niger Delta Region and why there might be a need for a slight shift from the current emphasis. Table 4.3 provides the projects executed by the NDDC (Omotola, 2007), while Table 4.4 presents demands from civil societies placed on multinational oil corporations (Ikelegbe, 2001).

TABLE 4.3 SECTORAL SUMMARY OF PROJECTS EXECUTED BY NDDC, 2004

Project Type	2002 Projects	2003 Projects	Completed Projects	Commissionable Projects	Commissioned Projects	Total no of Projects
Building	402	15	316	275	138	417
Canalisation	9	9	0	0	0	18
Electrification	130	24	125	106	46	154
Flood control	1	0	1	1	0	1
Jetty	41	6	32	31	11	47
Roads/bridges	40	18	20	12	4	58
Water	91	24	76	70	21	115
Grand Total	**714**	**96**	**570**	**495**	**220**	**810**

Source: adapted from Omotola (2007)

TABLE 4.4: DEMANDS OF CIVIL SOCIETY IN RELATION TO OIL CORPORATIONS

S/N	Civil society	Category	Community Development	Compensation /Reparation	Employment	Equity Participation	Action Against MNOCs	Withdrawal of MNOCs	Environmental Degradation
1	INC	AEA	X		X				X
2	MOSOP	EA	X	X	X		X	X	X
3	IEF	EA	X		X	X			
4	ENC	EA	X		X				X
5	NIDOPCO DO	EA	X		X	X	X		X
6	FNDIC	EYA	X				X	X	
7	DOPCA	PE	X		X	X			
8	CM	PND					X		X
9	IYC	EYA					X	X	X
10	INYM	EYA	X	X	X		X		X
11	EYF	EYA	X	X	X		X		
12	NDVF	EYA	X		X	X	X		X
	Frequency		10	3	9	4	8	3	8

EA - Ethnic Association; EYA – Ethnic Youth Association; PE – Pan Ethnic Association; PND – Pan Niger Delta Association; AEA – Apex Ethnic Association

Source: adapted from Ikelegbe (2001)

While the NDRDMP was no doubt unique and thorough in most aspects, the information in Table 4.3 illustrates that the emphasis was on the execution of developmental projects in large numbers; nonetheless, it appeared not to have deterred the continuous civic uprising. The information tables could be used to support the physical planners' argument against the master plan which they saw as being more economic in nature. While Table 4.4 presents the key issues leading to the conflicts, Table 4.3 illustrates the response path by the NDDC. Most of the civil groups articulated the need for accelerated community development, quality of life, addressing environmental degradation and inegalitarian treatment by the multinational corporations and the Federal Government (Okonmah, 1997; Ibeanu, 2000; Ikelegbe, 2001; Omeje, 2005; Idemudia and Ite, 2006; Omotola, 2007; Okumagba and Okereka, 2012). This can be seen from the frequency of each demand from the conflicts.

Table 4.4 suggests that the strongest demand is related to community development as shown by the demands of 10 civil societies of the 12 surveyed. The second is employment which was noted in the demands of nine societies. Employment in the Niger Delta is linked to the environment (ibid). This issue can also be interpreted as there being a lack of land for livelihood. The third highest demands request that environmental degradation is addressed and also action taken against the multinational corporations that have been destroying landscapes. The communities are not against the exploration, seeing as only three societies asked for the withdrawal of multinational corporations from the Region. Table 4.4 also suggests that compensation as represented by three societies and equity participation by four are not uppermost on the agenda of the aggrieved societies.

It can be inferred that physical planning may indeed be the missing piece of the puzzle in the NDRDMP, as the grievances advanced by the societies against the multinational corporations cannot be comprehensively tackled without a physical plan for the communities.

This in combination with landscape degradation and the creation of a sustainable environment for the communities to earn their living indeed makes sustainable landscape planning imperative for the Delta Region. However, while supporting this argument, the research asks what vision should guide the landscape planning and suggests initiating it with the communities of the exploration Regions. An

understanding of the landscape and people is needed to understand what role landscape planning could play. Literature on the background character of the Delta Region has been presented in the following section, while the methodology for creating communities' visions for landscape change is presented in Chapter five.

4.3 The Niger Delta Region: Definition and Delimitation of Geographical Regions

According to Reenberg and Baudry (1999) Regions only exist as an intellectual concept which is useful for a particular purpose. Region is therefore defined *"as a part of the earth's surface, which is homogeneous with respect to some (or one) criteria which define the limits of the Region" (Reenberg and Baudry, 1999, p. 36).* Furthermore, differentiation is made between functional, formal and administrative Regions, where the functional Region is "delimited and defined on the basis of the functional coherence within the Region". The formal Region conversely is "homogeneous with respect to one or more characteristics (variables)". The administrative Regions in the Niger Delta area are neither functional nor formal as defined above although they are reasonably significant as realistic and inevitable tools for the investigation. The study of the uniqueness of this landscape thus requires it to be defined and delimited, given that the focus on scale is essential for the successful analysis of phenomena and process (Selman, 2006; Selman, 2008; Selman, 2009).

4.3.1 Background to the Niger Delta Region

The Niger Delta Region (Figure 4.11), as defined and delimited by geography is located in the lower River Niger between latitudes 4^{o} 2' and 6^{o} 2' north of the equator and 5^{o} 2' east of the Greenwich meridian (Adekola and Mitchell, 2011).

FIGURE 4.11 NIGERIA AND THE NIGER DELTA STATES

Source: Stratfor Global Intelligence (2012)

a) Administrative and Political Boundaries

Projecting from the definition and delimitation of the geographical Region explained above, the Niger Delta Region can be seen to conform to the '*formal'* because it is grouped as a result of a common variable – oil and gas exploration activities. It can however be read as an '*administrative'* Region too because as an administrative Region, it is essential for the investigation required for oil and gas legislation and policies. Therefore, administratively the Niger Delta Region is defined by the political boundaries of nine states (Figure 4.12), and comprises 27 senatorial districts and 187 local governments (Okumagba and Okereka, 2012).

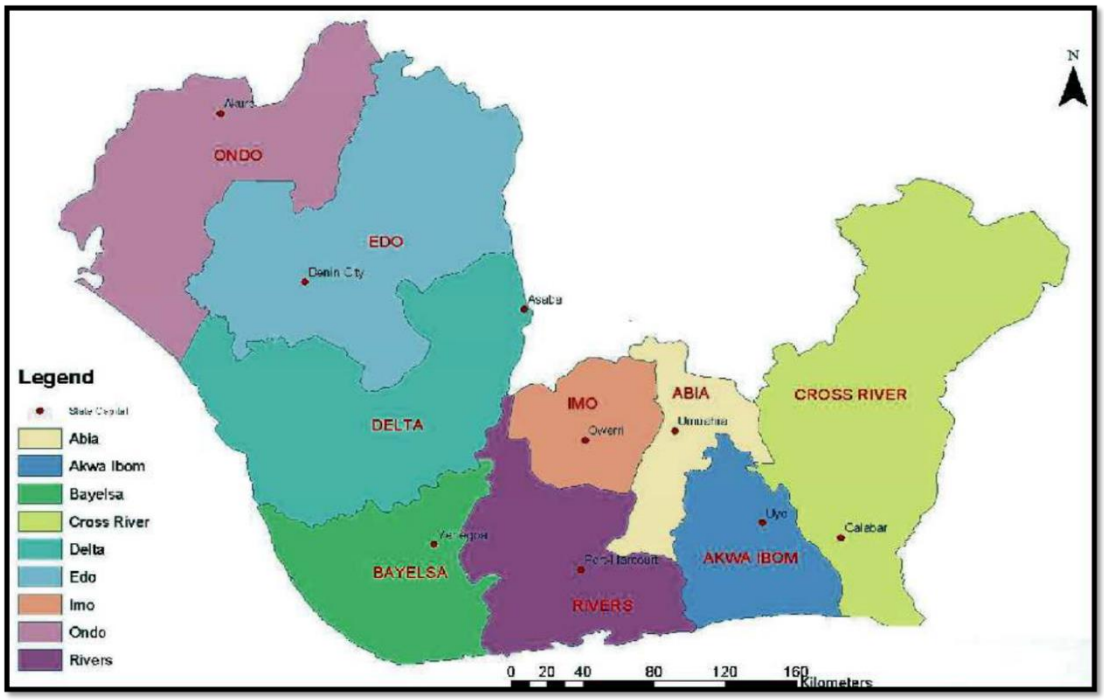


FIGURE 4.12 NINE STATES OF THE NIGER DELTA REGION

Source: NDDC (2006)

b) Population and Settlement pattern

The nine states of the Niger Delta Region: Abia, Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Imo, Ondo, and Rivers cover a land area of 112,110 square kilometres. The population was estimated at 39,157,000 in 2015 and will be in the Region of 45,715,000 by 2020 (Tables 4.5 and 4.6).

TABLE 4.5 LAND AREA AND STATE CAPITALS OF NIGER DELTA REGION

State	Land Area (square kilometres)	Population (Projected to 2005)	Capital City
Abia	4,877	3,230,000	Umuahia
Akwa Ibom	6,806	3,343,000	Uyo
Bayelsa	11,007	1,710,000	Yenagoa
Cross River	21,930	2,736,000	Calabar
Delta	17,163	3,594,000	Asaba
Edo	19,698	3,018,000	Benin
Imo	5,165	3,342,000	Owerri
Ondo	15,086	3,025,000	Akure
Rivers	10,378	4,858,000	Port Harcourt
Totals	112,110	28,856,000	

Source: NDDC (2006)

TABLE 4.6 POPULATION PROJECTIONS IN THE NIGER DELTA REGION

State	2005	2010	2015	2020
Abia	3,230,000	3,763,000	4,383,000	5,106,000
A/Ibom	3,343,000	3,895,000	4,537,000	5,285,000
Bayelsa	1710,000	1,992,000	2,320,000	2,703,000
C/River	2,736,000	3,187,000	3,712,000	4,325,000
Delta	3,594,000	4,186,000	4,877,000	5,681,000
Edo	3,018,000	3,516,000	4,096,000	4,871,000
Imo	3,342,000	3,894,000	4,535,000	5,283,000
Ondo	3,025,000	3,524,000	4,105,000	4,782,000
Rivers	4,858,000	5,659,000	6,592,000	7,679,000
Total	28,856,000	33,616,000	39,157,000	45,715,000

Source: NDDC (2006)

Settlements[15] in the Region are determined by the availability of dry land and the nature of the terrain. There are 13329 settlements and 99% represented by 13231 settlements have populations of less than 2000. According to population size, less than 1% representing 98 settlements is regarded as urban centres. Less than 5000 people are found in 94% of the settlements; 4,781 settlements (48%) are occupied

[15]A typical settlement is small with scattered hamlets

by 1000 to 5000 people; 7,686 settlements (54%) have less than 1000 inhabitants and only 6% represented by 764 settlements have a population of 5000 to 20000 (NDDC, 2004).

A typical community in the Niger Delta Region consists of compounds close together in groups of small buildings housing 50-500 people. For this reason, the settlement can be aptly described as rural (Figure 4.13)

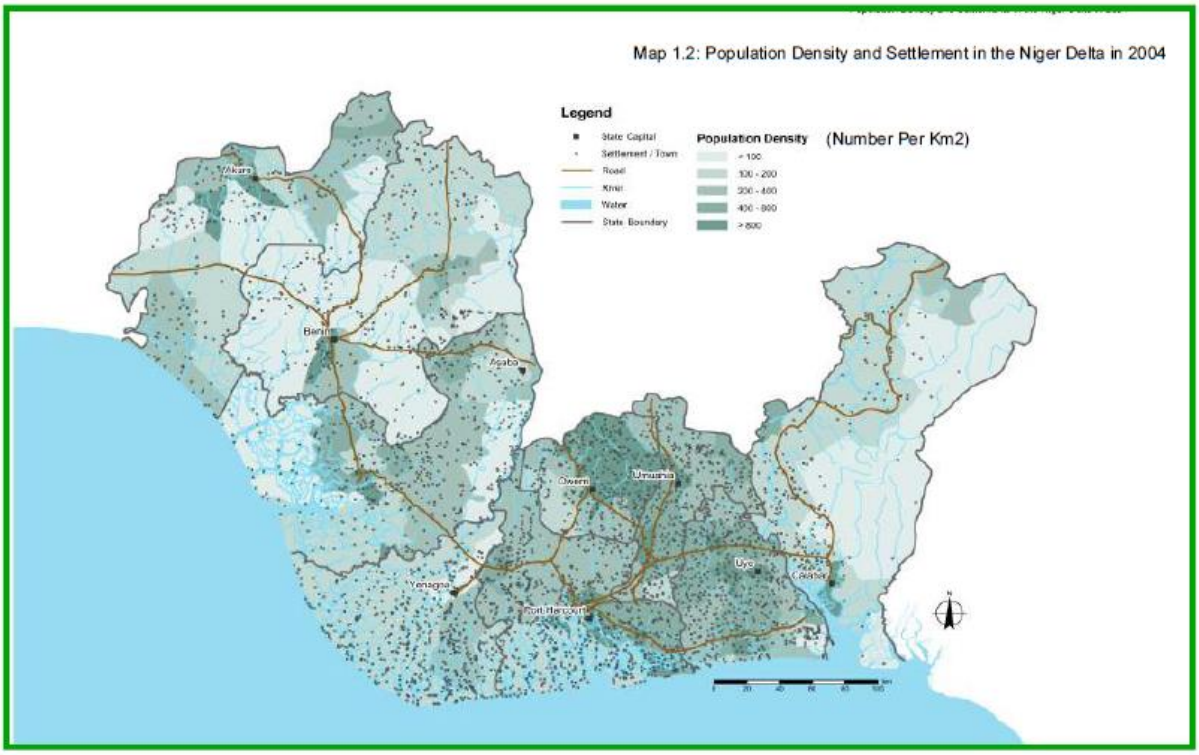


FIGURE 4.13: POPULATION DENSITY AND SETTLEMENT
Source: NDDC (2006)

c) Oil and Gas Sector Activities

The Niger Delta is a formal Region because of the unique characteristics of the presence of oil and gas exploration activities. Here, it can be differentiated by the presence of onshore or offshore exploration activities, their infrastructure and assets, such as pipelines and gas stations (Figure 4.14). The oil and gas assets and infrastructure include 5284 oil wells, 10 gas plants, 275 flow stations, 10 export terminals and over 7000km of pipelines (Table 4.7).

TABLE 4.7 OIL AND GAS ASSETS AND INFRASTRUCTURE SUMMARY (2004)

Contribution of crude oil export to national foreign Exchange	Over 80%
Average daily crude oil production	2mill BPD
Number of oil wells drilled in the Niger Delta Region	5,284
Number of flow-stations for crude oil processing	257
Length of oil and gas pipelines in the region	Over 7000 km
Number of export terminals	10
Land area within which the network of pipelines are located	31,000 Sq km
Number of communities hosting oil / gas facilities	Over 1,500
Gas flares-out target date	2008
Number of petroleum training Institutes in the region	1
Number of free export / industrial zones in the region	2
Number of gas plants in the region	10
Number of marginal oil fields farmed out to local companies	30

Source: NDDC (2006)

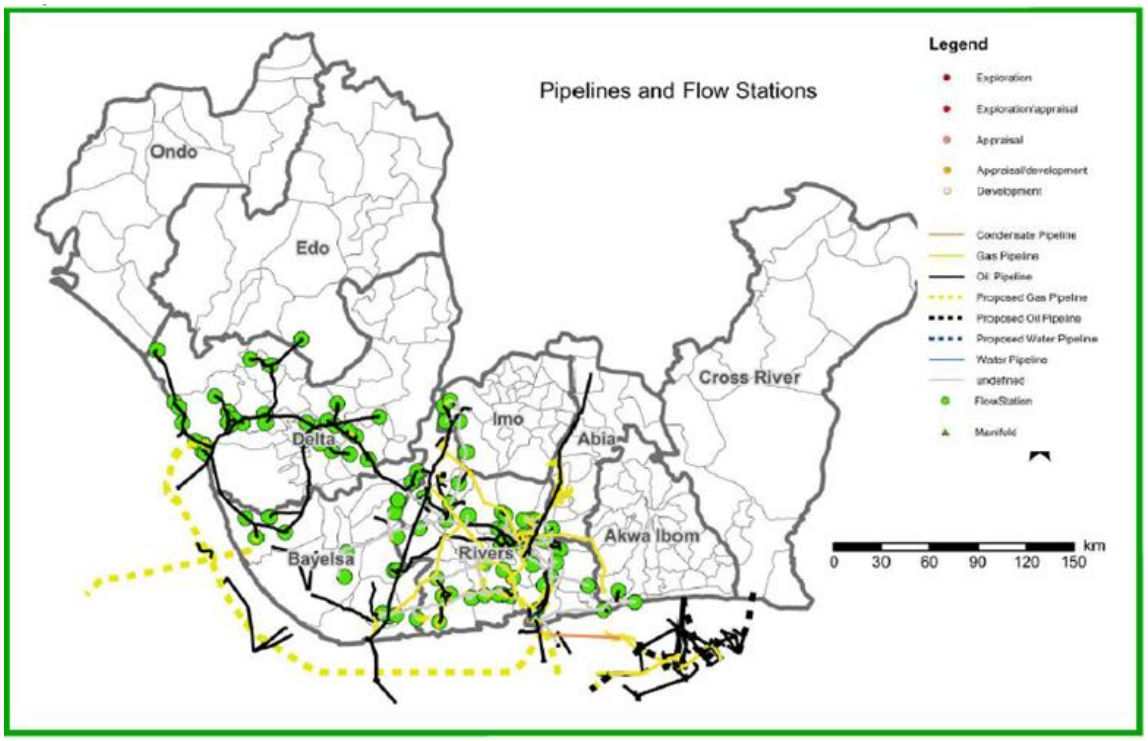


FIGURE 4.14 DISTRIBUTIONS OF OIL AND GAS ONSHORE AND OFFSHORE ACTIVITIES

Source: NDDC (2006)

4.3.2 The Landscape of the Niger Delta Region

For the purpose of physical planning, the Niger Delta is best defined as a functional Region because of the coherence of its physical landscape, which is mostly mangrove in nature. The Region has Africa's largest river delta and mangrove ecosystem, with the greatest extension swamps of freshwater (55% of all fresh water swamps in Nigeria) and is home to the third largest wetlands in the world (Uyigue and Agho, 2007). These wetlands were formed as a result of sedimentary deposits transported over time by the Rivers Niger and Benue. The Delta is fragile with over 50% water and thousands of creeks (Adekola and Mitchell, 2011) and is known to be the world's ninth largest drainage area covering four ecological zones (Olukesusi, 2005) as shown in Figure 4.15.

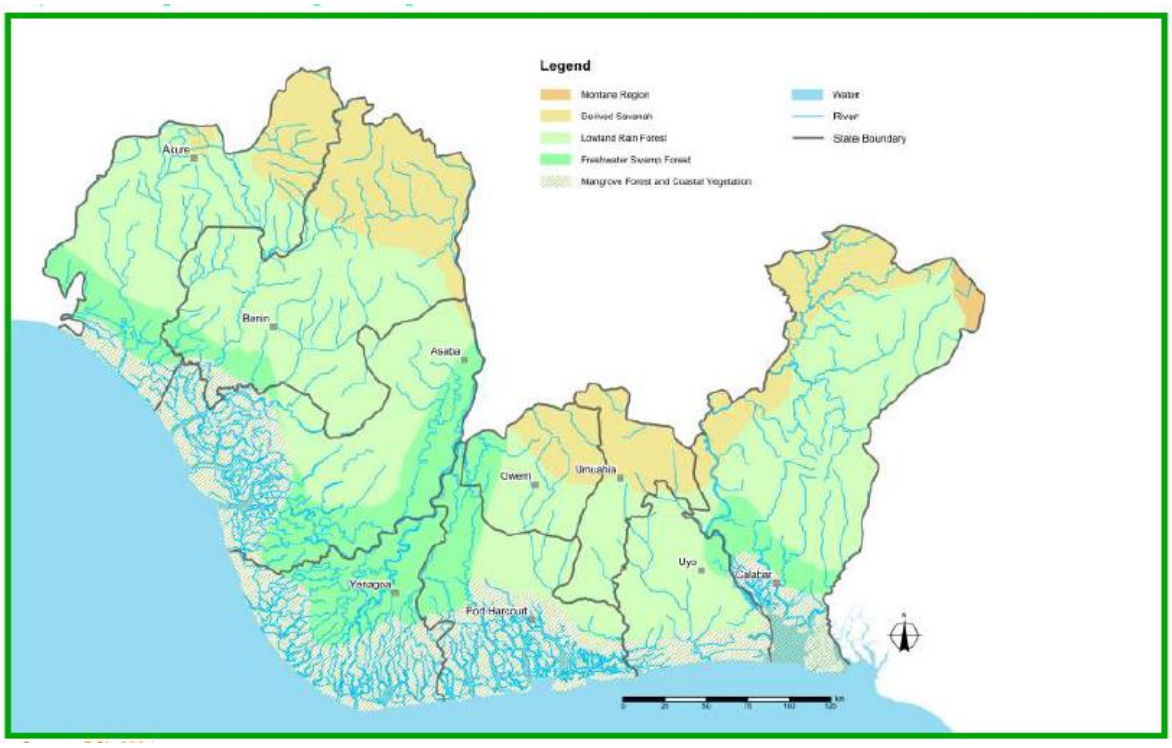


FIGURE 4.15 ECOLOGICAL ZONES OF THE REGION

Source: NDDC (2006)

4.3.3 Ecosystems services of the Niger Delta Wetlands

The Niger Delta wetland ecosystems are extremely beneficial to the dependent communities due to the provision of food, energy and raw materials, medicine,

purification of air and water, and their sacred sites which are still being researched (Adekola and Mitchell, 2011). MEA (2003) classifies the kinds of services provided as provisioning, regulating, cultural and supporting.

4.3.4 Driving forces of the Niger Delta Wetlands

The most important assets of the NDR communities are therefore the wetlands, owing to the role of this areas as a service provider for both livelihood and culture. These ecosystem services have been detailed out in Adekola and Mitchell (2011). As a fragile environment therefore, the Niger Delta is sensitive to the exploitation of natural resources; for example, the invasive Nypa palm was the clear direct driver for change in the Region's wetlands (ibid). However, the authors also note that the indirect drivers appear to be more significant; the most prominent of them was rapid population growth as it places demands on residential, industrial, agricultural and other spaces as well as increases demand for wetland resources. Extensive literature reviews by the authors (ibid) isolated four types of pressures which are recognised to be exceedingly problematic. They are oil and gas exploration and development; wetland reclamation for housing and infrastructural development; dredging activities and invasive plant species (Adekola and Mitchell, 2011, p. 56).

These pressures vary in importance across the Niger Delta Region and impact on the health and integrity of the ecology of the wetlands; they have consequences also for human wellbeing. This suggests the need to consider an approach to capture different types and complexity of relevant data even though frameworks such as the DPSIR[16] for evaluating ecosystem changes and their implications for human well-being are gaining ground. Such assessment frameworks however are not able to capture all the key relationships between society and the environment and it can be argued that such assessments are too simplistic to capture complex interactions, for example between drivers. DPSIR does not capture interactions between the dependency of other categories of services on the supporting services as well as other human well-being constituents for freedom of action and choice. There is also little evidence pertaining to cultural services in this area which is often seen to be shrouded in secrecy (Adekola and Mitchell, 2011).

[16] DPSIR stands for Drivers-pressure-state-impact-response framework

As all users of the ecosystem operate within informal institutions as well as within formal ones it would be useful to understand how the formal and informal systems interact to produce the current outcomes. Understanding the processes will assist and help lead to an understanding of the type of intervention required. These should be broad based and from different perspectives, such as from economic values, socio-cultural views and ecological processes etcetera or from research on communities' future landscape visions.

4.4 The Case Study Landscapes

Adekola and Mitchell (2011) point out how African communities have been frequently portrayed as homogeneous in research, whereas this is not so. Communities are fragmented and diverse and need to be recognised as heterogonous if set objectives are to be achieved. Consequently, the term community used in a geographic context to connote homogeneity does not stand in the African context

> *"The truth is that homogeneous communities necessary for such generalisation barely exist in Africa (Booth, 2009). To promote effective management and develop an effective evidence base, it is important to revisit the concept of community, describing how things work in an African context. The Niger Delta is a suitable site to generate such knowledge…" (Adekola and Mitchell, 2011, p. 63)*

This section provides a focused brief introduction to the two case study areas and their landscapes because;

> "*If we want to understand ourselves, we would do well to take a searching look at our landscapes...our unwitting autobiography, reflecting our tastes, our values, our aspirations, and even our fears*." (Lewis, 1979, p. 1)

The two case study communities are from Akwa Ibom State which is one of the nine states of the Niger Delta Region that has satisfied the criteria for safety and security for the conduct of this research. It is also identified by the two categories of landscapes that define the case study areas i.e. communities with oil and gas exploration activities and those without the activities.

FIGURE 4.16 MAP SHOWING THE THREE SENATORIAL ZONES OF AKWA IBOM STATES (THE CASE STUDY AREA).

Source: Essien and Abasifreke (2014)

These are represented by Ibeno and Eket and Environs respectively. The state has three senatorial districts (Figure 4.16) and this political map plays an important role during the identification of landscape types and participants in chapter seven where Eket and Environs represents the communities without the exploration activities.

4.4.1 Ibeno communities with Oil and gas exploration activities

The population of the Ibeno people is less than 150 thousand found in about 27 large villages. These villages are located along the lower stretch of Quo-Iboe River (sometimes written as Kwa Ibo) by the Atlantic coast and within twelve kilometres of the Famous Qua Iboe Terminal (QIT) of Exxon Mobil which is the second largest oil producer in Nigeria upstream and downstream. Ibeno has a landscape surrounded by numerous oil operations of different types from seismic to oil exploration and therefore it is the base of Mobil Producing Nigeria Unlimited (Leton, 2006).

- Natural dimension

The Ibeno territory stretches at about 110km east – west and three kilometres north to south. It has over 30 km stretch of serene, clean white sand beach (Leton, 2006) and is the local government area with the largest coastline of 129 km and coastal area of over 1200 square kilometres in Akwa Ibom state (Fig 4.17 and 4.18). Ibeno was carved out of Eket Local Government in 1996 by the Federal Government. Land issues are at present the major area of dispute. The Ibeno Local Government headquarters is presently at Upenekang (Akwa Ibom State Government, 2012b).

FIGURE 4.17 SHORELINE NEAR QUO IBO SHOWING MOBIL INSTALLATIONS

Source: Photo by Ciuna (2005)

FIGURE 4.18 WHITE CLEAN SANDS OF IBENO BEACH WITH MOBIL INSTALLATIONS SEEN IN BACKGROUND

Source: Researcher's Fieldwork Photos 2013

Ibeno location in an estuarine and deltaic environment, is represented by a complex labyrinth of creeks and waterways created by four rivers to its west, the Imo, Andoni, Opobo and Bonny Rivers (Figure 4.19). Together with the main Quo Iboe River, the creeks are "*flanked with mangroves that extend as far inland as the water is carried by the tide*". Dry land is in short supply as soil is alluvial and the immediate ecosystem marshy (Leton, 2006, p. 3) providing conditions favourable for fishing and farming throughout the year (Figure 4.20). The rainy season spans the entire year with peaks between May and September (Akwa Ibom State Government, 2012b).

A challenging implication of the low lying terrain of the Ibeno was illustrated in Talbot (1967, p. 287) which reported how the Ibeno people were more distressed at burying their dead in shallow graves, which they described as damp resting places, than in the inconvenience of themselves being flooded every wet season. This constant flooding has continued, exacerbation by climate change and environmental degradation from gas flaring. Ibeno is within close proximity to the Mobil installations at the Quo Iboe Terminal. (Akwa Ibom State Government, 2010; Atai, 2010; Nyong, 2011).

No solution to these problems have been developed over the years as is indicated in the speech of the then governor Godswill Akpabio during a consolation visit after an unprecedented flood in August 2010.

> "*The governor consoled them for the trauma and losses suffered as a result of the flood, assuring that with the rapid response of the Federal Government, positive solutions would be reached to protect the people and save them from future occurrences. The state chief executive raised indication that either an embankment would be built to safeguard the people from further ocean surge or that the communities may have to be relocated to another area, adding that his administration, in line with his rural development policy, will partner the Federal Government on the matter. (Akwa Ibom State Government, 2010)*

FIGURE 4.19 LOCATION SHOWING IBENO BY THE QUO IBOE RIVER

Source: Google (2015)

FIGURE 4.20 FISHERMAN'S VILLAGE NEAR QUA IBOE

Source: Photo by Igor (2008)

4.4.2 Eket and Environs: communities without oil and gas exploration activities

Communities of Eket and Environs do not have exploration activities in their landscapes. The absence of exploration activity has been a source of contention. In previous times these communities shared local government and oil revenues with their neighbours the Ibeno. But this has now changed. However, the Eket and Environs communities are not excluded from some of the benefits accruing from the resource.

Three of the four local government areas in the case study communities without oil and gas exploration activities, are considered as host communities to Mobil Producing Nigeria. These are Eket, Esit Eket and Onna while the Ibeno is the fourth. The three host communities do not have pipelines running through them but they are strongly impacted by the oil industry particularly by the associated population growth and in-migrants and the effect of oil infrastructure such as gas flaring and oil spills on community and environment. These communities enjoy the 'host community' status and some assigned benefits gained as part of a memoranda of understanding (MOU) with the companies. However, they are disenfranchised because of many contested issues with the Ibeno and the multinational oil companies, the analyses of which is beyond the scope of this research. This research has used a different definition based on the landscape of exploration activities to classify the communities. As they did not have any exploration activity they belong to the category identified as communities without exploration activities.

- Natural dimension

The physical relief of the landscape of these communities is remarkably flat or gently undulating with no point beyond 300ft above sea level and it is amply drained by the several tributaries and rivulets of the Qua Iboe and the Cross Rivers (Ekong, 2001). The influence of the Atlantic Ocean, the Qua Iboe and Cross Rivers which traverse the length and breadth of the land produces valleys, creeks and swamps in some areas (Akwa Ibom State Government, 2012a). The geology is predominantly coastal plain sediments producing natural deposits of various mineral resources of marine, deltaic, estuarine, lagoonal and fluvial lacustrine

material. Four physiographic Regions can be identified in the state on the basis of landform and terrain and they are; oil palm belt, tropical rainforest, swamp and beach belts.

4.5 Conclusion

This chapter describes the case study area in terms of the numerous forces that shape its landscapes. It situates the case study landscape in the politics of the first two powerful stakeholders which are the Federal government and the multinational corporations. It examines the social forces canvassing for resource control and the economic gains and losses as well as the various socio-economic interventions for the Region's landscapes. It presents the landscapes of the Region in terms of the benefits derived from the ecosystem services as well as the driving forces. Five pressures were recognised as problematic. They are oil and gas exploration, wetland reclamation and development; development of infrastructure for industry and housing; dredging activities and the invasive species of plants. The chapter describes the landscapes of the communities and the visible failure or lack of adequate or appropriate environmental intervention. It therefore builds an argument for the need for sustainable future landscape planning of the Region.

The next chapter explains the methodology for creating the vision for this sustainable future landscape change.

5 Chapter 5. Research Methodology

5.1 Introduction

This chapter reports on the empirical research as well as justifications for the theory guiding the methods of data collection. It therefore outlines *'what strategy, what framework, from whom and how' (Punch, 2005)* of the data collection and includes ethical considerations and limitations regarding the research methods employed. The chapter is presented in two parts:

a) The methodological theory that describes and identifies the methodology by which the research questions are answered.
b) Fieldwork and data collection in the case study communities

The first part presents the detailed theory that guides the design of the research and methods employed, while the second part reports how the empirical research was conducted.

5.2 Methodology

The aim of this research is to identify the future landscape visions of the oil and gas Region with the communities of the Region and to examine the implication of the visions for a more sustainable future landscape. This information is employed in conceptualising more sustainable future landscapes for the Niger Delta Region. The research questions guiding this exploratory enquiry are presented once more below;

1) What are the communities' visions for future landscape change?
2) How can these visions play a part in the future sustainable landscape planning of the oil and gas Region of Nigeria?

The sub questions are:

a. What are the appropriate approaches for advancing a more sustainable landscape planning for communities in the oil and gas Region?
b. How can landscape vision be created to play a major part in landscape planning for communities in the oil and gas Region?

c. What are the implications of these landscape visions for the present and future sustainable landscapes of the oil and gas Region?

In understanding the methodology which Silverman (2010) defines as a general approach to studying research methods, this research study first established the ontological and epistemological views regarding the enquiry, as well as other components of the methodology as presented in the following sections.

5.2.1 Ontological and Epistemological Views

What is the nature of the social and political reality to be investigated? The answer to this question is the ontological position of the research, and therefore, the assumptions underpinning particular approaches to social inquiry, as well as to our assumptions on what we believe constitute social realities (Blaikie, 2000; Grix, 2002; Bryman, 2008). The ontological stance in this research adopts the assertion that '*social phenomena and their meanings are continually being accomplished by social actors*' and that not only are they produced through social interaction but are also always in a constant state of revision (Grix, 2002; Bryman, 2008). Thus, the ontological position of this research is constructivism. This further implies that landscapes exist although they are a social construction as both the material and imagined knowledge of landscapes are mediated through collective human experience and therefore, emerge as result of peoples' engagement with the material world (Swaffield, 2006). In the conceptualisation of future landscapes of the Niger Delta Region, lies a process of engaging the community in creating a vision for their landscapes. As the approach is of the constructivism paradigm, it therefore, suggests a qualitative research strategy is employed.

Epistemology is concerned with the theory of knowledge and possible ways of gaining knowledge related to social reality, in addition to its methods and validations, and moreover, in relation to how we come to know what we know. The epistemological position of this research is interpretivism, implying a position that recognises that the meaning is subjective rather than objective (Grix, 2002; Bryman, 2008). It contends that reality can only be understood through the subjective interpretation in the reality, as was the case in creating future visions

with communities of the Niger Delta. Interpretivism hinges its philosophy on the study of phenomena in its natural environment. The different possible interpretation of the phenomena is in itself part of the scientific knowledge pursued. The landscape visions explored by the research were based on subjective ideas, presented by way of ideas and understandings of the respondents; thus, further reinforcing the qualitative research strategy.

At this stage of the research, the ontological and epistemological positions have been established, and these and other elements of the research approach (Table 5.1) have direct implications for the research methodology.

TABLE 5.1: RESEARCH APPROACH

Ontological Position	Constructivism
Epistemological Position	Interpretivism
Strategy	Qualitative
Research Methods	Participatory landscape planning methods
Methods of Data Collection	Photo elicitations, interviews, personal observations, focus group discussion and transect walks.
Methods of Analysis	Conventional method of analysis

5.2.2 The research strategy

The research on creating landscape visions for the Niger Delta Region hence employs a methodology that leads to qualitative research strategies; a 'strategy that typically lays emphasis on words rather than quantification in the collection and analysis of data' (Bryman, 2008). Future landscape visions are visual imaginaries, which are affected by *social structures and agents (ibid); therefore, as this research is an exploration of 'how'* questions, quantitative measures may not be appropriate in providing the answer. Qualitative approaches however allow for the capturing of the future landscape visions from the community by means of four traditions of naturalism, ethnomethodology, emotionalism and postmodernism

(Gubrium and Holstein in Bryman (2008). The justification for the qualitative research strategy used in this study is therefore based on the influence of the inductive, constructionist and interpretivist's orientation of the study, as supported in Bryman (2008). Furthermore the qualitative research strategy is guided by decisions on four issues mentioned below (Silverman, 2010). These are elaborated upon indicating their application to this research. They are:

a) Early decisions concerning which methods to use
b) Understanding the links between methods, methodologies and society
c) Appreciating the role of models in shaping the meaning and use of different methods and
d) Choosing methods appropriate for the research topic

5.3 Early decisions on what methods to use

A '*heuristic framework of knowledge formation relevant to landscape architecture and the conventional research paradigm'* (Swaffield, 2006, p. 25) provides guides on several theoretical paradigms and their assumptions, methods and modes of representation. The constructivist approach as presented therein, further reinforced the qualitative research strategy chosen as appropriate for this research. In order to put all these components together, a research design which considers what data is required, how and from whom they are collected, is necessary (Punch, 2005). A research design is described as;

> *A plan that guides the investigation in the process of collecting, analysing and interpreting observations. It is a logical model of proof that allows the researcher to draw inferences concerning causal relations among the variables under investigation* (Nachmias *et al.*, 2009, p. 77).

The primary purpose of the research design was to guide the evidence to produce answers to the initial research question, in addition to providing a blueprint which would address the following four questions (Philliber *et al.*, 1980):

i) What questions are studied?
ii) What data are relevant?
iii) What data to collect?
iv) How to analyse the result.

Given that data provides credibility to the quality of the study, the depth and scope of data are important. To this effect, two criteria in support of data are their suitability and sufficiency in depicting a complete picture within the parameters established (Charmaz, 2014). However, Interpretive qualitative research entails '*entering the research participant's world', and* gaining a holistic overview of the context through its arrangements, logic, and implicit and explicit rules thus situating the researcher in the empirical world (Punch, 2005). An appropriate research design becomes necessary; one which allows the study to contribute to knowledge of the complex social phenomena that influenced the communities' visions of the future landscapes of the Niger Delta Region. Additionally, one that afforded some generalisability, given that to collect data from every community in the Delta Region within the time allocated for the research was not feasible and may not be necessary.

However, as seen in the context of Chapter 4, there is a common socio-economic and demographic trend in the Delta Region as well as similar goals for different communities, in favour of fighting social injustice and canvassing for resource control. In addition, regarding the emancipation of the Region, there appears to be some homogeneity in social goals which might influence general visions of future landscape planning. To this effect, the case study design was seen as appropriate and employed here. The term case study, due to the association of the word 'case' to location emphasises an intensive examination of the setting (Bryman, 2008). The case study has been used to evaluate complex community initiatives, in particular in communities where individual consumers or users of services are the unit of analysis (Yin, 2009). This is appropriate to this research, where the communities' visions were analysed to conceptualise future landscapes.

5.3.1 Case Study

Punch (2005, p. 144) offers a general idea concerning what a case study is:

> *The basic idea is that one case (or perhaps a small number of cases) will be studied in detail, using whatever methods seem appropriate. While there may be a variety of specific purposes and research questions, the general objective is to develop as full an understanding of that case as possible*.

A case study is also

> *A plan that examines a phenomenon in its natural setting, employing multiple methods of data collection to gather information from one or a few entities (people, groups or organisations). The boundaries of the phenomenon are not clearly evident at the outset of the research and no experimental control or manipulation is used* (Benbasat et al. in Gable, 1994).

Yin (2009) identifies three types of case studies: the exploratory case study, descriptive case study and explanatory or causal case study. Yin adds that the case study is generally preferred when three particular conditions are met (Yin, 2009, p. 2);

i) 'How' and 'why' questions are being proposed
ii) When the researcher has little control over the events
iii) When the focus is on a contemporary phenomenon.

This research fulfils all three criteria and consequently employs the case study approach. The principal crux of the fieldwork is the exploration of the future landscape visions on behalf of the communities, who are currently in landscapes of degradation due to oil exploration. The purpose is to answer the question:

How can these visions play a part in the future sustainable landscape planning of the Niger Delta Region?

Additionally, Yin (2009) demonstrates how the case study research design is intensive enough to allow for generalisation of theoretical concepts.

5.4 Linking Methods, Methodology and Society

The understanding of the connections between methods, methodologies and society have been suggested by Silverman (2010), who notes that "*Society is still dominated by sectoral thinking in the way laws, regulations, planning and administration for landscape are formulated in separate divisions, and where values related to nature and culture are separated from experiential and social landscape values*" (Sarlov Herlin, 2004, p. 401). It is worth noting that developing countries are known generally to lack the expertise which Western type developed

countries utilise in landscape planning and the design of multifunctional landscapes (Duchhart, 2007). However, even in developed countries, principally in Europe, the landscape concept differs from one country and culture to another (Sarlov Herlin and Fairclough, 2013). In developing countries, planning for communities such as those of the Niger Delta Region, which are predominantly rural, have their peculiarities and sensitivities that impact on the choice of methods. These peculiarities and sensitivities are outlined in the following sections.

5.4.1 Types of communities based on oil exploration

Though the entire Delta Region exhibits similar trends in all socio-economic and demographic data analysis, the communities consist of three groupings, in terms of the direct effect of oil and gas exploration on the landscape. The first group is communities in the hinterland whose landscape has been damaged by the exploration activity and oil exploration appears to be the major driver of landscape change; for example Odi in Bayelsa State. The second group are those communities with the presence of exploration offshore; consequently with damage to the landscape from oil spills in the waters; for example Ibeno in Akwa Ibom State. Here, the effect of the exploration may not be the principal driver of landscape change in all the communities. The third group of communities has no physical presence of any exploration activity; for example Eket in Akwa Ibom State, although these communities might be affected by being in an area where an administrative headquarters is situated or by proximity to host communities; thus, the direct driver of landscape change may not be the exploration activity. However, Federal Governments define communities in terms of the exploration activity type. Furthermore, all the communities in the Region exhibit the same characteristics in demographic and socio-economic surveys; therefore, any or all of the three types are excellent case study locations for the exploration of the future landscape vision of the Region.

5.4.2 Sensitivities as a result of previous researches

The Niger Delta Region has been home to a considerable amount of research and documentaries. As a consequence, people appear to be tired of researchers' questionnaires, particularly as nothing tangible has been achieved from the numerous exercises. This is evident from the continuous conflicts and threats from the Region as of 2016 (Amaize *et al.*, 2016). Though research of the sort proposed

in this study may not have been conducted in the Region, the method of data collection has been chosen to be interesting, engaging and as succinct as possible.

5.4.3 Literacy level

The education level in the Niger Delta is shown as 43% primary and 13% tertiary (NDDC, 2006). This made it imperative for the method of data collection to be sensitive to literacy levels though almost everybody speaks English, seeing as it is the lingua Franca.

5.4.4 Demographic Challenges

Despite there being no answers yet to the question of who has landscape vision, literature reviews have a tendency to demonstrate that most visions which had influenced landscape planning in the past were provided by adults (Stewart *et al.*, 2004; Steinitz, 2008; The Royal Society of Edinburgh, 2011). However, it was noted in this research that the youths were the most predominant age in the structure of the population in the Niger Delta Region; approximately twice the nearest age group (Figure 5.1).

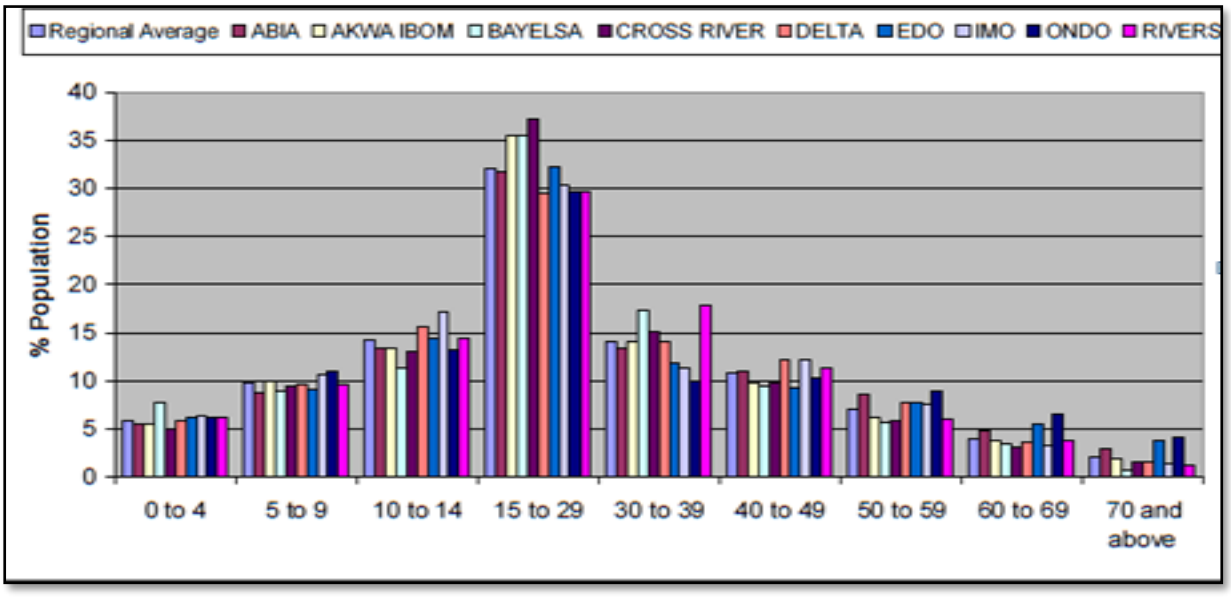


FIGURE 5.1: DISTRIBUTION OF POPULATION BY AGE

Source: NDDC (2006)

Youths also represent the most vocal voice in the Region and the key voice to be negotiated with (Ikelegbe, 2001; Ikelegbe, 2006; Amaize *et al.*, 2016). Moreover, by means of unconventional ways but supported by the current democratic dispensation in Nigeria, they have indirectly influenced political changes in the country. These reasons provide justification for exploring visions with the youths in the Region, not only because they constitute too high a percentage to be ignored but primarily because of their powerful voice. In the creation of visions for future landscapes the voices of the youths and children have been captured through use of appropriate methods that has been discussed in detail under sections 5.5 and 5.8.

5.4.5 Unemployment and Underemployment

Youth unemployment and underemployment has been identified as an important underlying cause of conflict and violence in the Region and therefore a major cause of security concerns, as discussed earlier in Chapter 4. Additional to the heavy burden placed on the working population, this implied that the research methods employed techniques that made it easy for the people to focus on issues of the landscape and also ensured the safety and security of all participants, as well as the researcher in the conduct of the fieldwork.

5.4.6 Models Shaping Meanings and Use of Research Methods

As evident from the foregoing sections and review of relevant literature, this research study selected an appropriate model to guide the fieldwork questions (Steinitz, 1990a; Steinitz, 1995) in addition to identifying several sustainable landscape planning strategies for the Region's landscapes (Ahern, 2005). Furthermore, it assisted in giving focus to the questions for the fieldwork through information gained from the '*Transforming Practice*' workshops (The Royal Society of Edinburgh, 2011). These have all been discussed in detail in Chapter 2. The next sections discuss the field instruments used for collecting the data.

5.5 Methods Appropriate to the Research

Methods are defined simply as the '*techniques or procedures used to collate data and analyse them. Method is 'meant to be a kind of catch all for several issues that need to be outlined'* such as research design, a sampling approach, access if relevant, procedures used and how these are followed up or not and why? (Blaikie, 2000). Others include observation schedules, note taking, coding issues and how you proceed with the analysis (Bryman, 2008). Thus, implying that there are no correct or incorrect methods but only methods appropriate to one's research topic and the objectives, as well as one's chosen model (Silverman, 2010).

In addition to the appropriate field instruments required for data collection, the peculiarities of the society of the Niger Delta Region outlined in the foregoing sections were considered in the choice of methods discussed in this section. The research questions required engagement with the participants in their landscapes, in order to understand their landscape visions. In addition, the questions enabled the researcher, who is an insider-outsider and who had no previous contact with the Region, to view the landscape to understand the visions. This approach encouraged the development of the conceptualisation of a sustainable future landscape of the oil and gas exploration Region. While the security concerns pertaining to the Region suggested other safer methods, for instance interviews through Skype or other internet medium, the literacy level, the lack of reliable internet services and networks, in addition to the need for the researcher to observe the landscape to facilitate its proper conceptualisation meant that the option open to the researcher was conventional direct engagement with the participants in their locations; other options might impact on the 'credibility'.

The sample categorisation was suggested by the demographic composition of the Region. Therefore the methods of data collection was carefully designed relating to all the participants, (adults, youths and children) as well as the research objectives. Hence interviews were conducted with the adults, oral histories with the elderly, and photo elicitation interviews with the younger youths and children. Additionally, focus group discussions and transect walks were employed with the communities.

It should be noted that the photo elicitation interview method has been presented in great detail because of the ethical issues surrounding its use, in addition to other concerns around the ethics of researching with children. The research methods are further discussed in the following sections.

5.5.1 Interviews, Oral History and Focus Group Discussions

Interview plays an important role as a tool for data collection in qualitative research. It affords the "*accessing of people's perceptions, meanings, definitions of situations and constructing of reality [and is] one of the most powerful ways we have of understanding others"* (Punch, 2005, p. 168). It is therefore used with the adults and the older youths in this research. In as much as an interview is about asking questions and getting responses, different types of interviews are available that provide various advantages (Punch, 2005; Bryman, 2008; Fontana and Frey, 2008). Interview types have been expressed as a continuum spanning from the structured to the semi-structured to the unstructured (Fontana and Frey, 2008). Drawing from the advantages of in-depth semi-structured and the unstructured interviews these methods are applied in this study with the aim of exploring and understanding the landscape visions, as well as the reasons behind them. Structured interviews were occasionally used with gatekeepers and community leadership to extract specific information that assisted the researcher's understanding of the context.

It is worth mentioning that oral history or life history methods afford the opportunity to understand the past history of local communities in a time of great change. Thompson (2016, p. 34) explains how *"through history ordinary people seek to understand the upheavals and changes which they experience in their own lives"*. Haley (2016) relates that using oral history methods with elders is particularly useful because passing on knowledge by conversation was a traditional way of exchanging information in many cultures. To this effect, this research used oral methods for data collection with a group of older people and on the two elder gatekeepers. The method provided a description of how the landscape was and what it meant to them in the past, as well as the present changes. These methods also provided their landscape visions of the future.

One of the many capacities of oral history method is the potential to enable analysis of systems of great complexity. Local history has connections to local environments; hence, understanding the oral evidence of ordinary people is essential with respect to understanding the total history (Thompson, 2016). Most oral history is concerned with ordinary people who, though experts on local and practical issues, see themselves as lacking in the requirements of historians in terms of knowledge and skills. Nevertheless, there are differences in schools of thought with some historians not convinced that oral history produces valid history (Portelli, 2016) just as there are different views on the nature of history itself (Perks and Thomson, 2016). Oral history methodologies are still developing so there is little discussion in the literature in relation to dogmas concerned with methods. Collectors and contributors are encouraged to utilise a diversity of approaches considering the different personalities and events to be covered. Yow (2016) gives practical guidelines on techniques and strategies from years of in-depth interview experience for building a rapport and enabling probing question. The key is honesty in dealing with contributors and willingness to learn on the job (Caunce, 1994).

Focus groups have also been used extensively in this research. Punch (2005) describes focus groups, as when the researcher works with several people simultaneously. The researcher as an insider-outsider used focus group interviews as they "produce data and insights that would [have been] less accessible without the interaction found in the group" (Morgan, 1988, p. 12). Formats used in Focus groups can be from the structured or unstructured. The characteristics of five different types were distinguished in Fontana and Frey (2008). Focus groups have been extensively employed in this research, as shown in the second part of this chapter. Through the focus group discussions, the researcher was able to identify the different landscape types of the exploration Region.

5.5.2 Transect Walks

The consideration of Language use is central to qualitative research and talk is the primary medium of social interaction. Language is the material from which social research is constructed (Punch, 2005). Understandably therefore, the role of

language in interviews could be problematic because language is "*never simply raw but is always situated and textual* "(2005, p. 176). The researcher, for this reason, identified another useful method from Participatory Rural Appraisal (PRA)[17]. Transect walks have been introduced to community mapping tools through Participatory Rural Appraisal (Chambers, 1994) and has been used in a study of biodiversity (Walpole and Sheldon, 1999). Chambers (1994, p. 960) describes a transect walk "*as walking with people or by local people through an area, observing, asking, listening, discussing, identifying… seeking problems, solutions and opportunities…resources and findings"*. The biggest advantage of this method is in the description of the real situation and in visualising spatial information and knowledge of the respondents' perception of spaces (Chambers, 1997; Greenwood and Levin, 2006; Herr and Anderson, 2014). This researcher employed a number of transect walks to understand the participants' reality and make sense of the landscape imaginaries conjured up during the interviews and focus group discussions. This, enabled the interpretation of the responses and the world that was described.

5.5.3 Visual methods

Visual methodologies are exploratory and/or participatory and aim to elicit participant's ideas, concepts, thoughts, preferences and understandings, not only verbally but also by means of texts. Visual methods allow research to incorporate knowledge that could not be accessed verbally. It adds significantly to both the knowledge generated while in the field and provides options when presenting the results later to others (Pink, 2004). Susskind and Cruikshank in Cumming and Norwood (2012) argue that participatory research provides opportunities for citizens to articulate their perspectives, for genuine participation, for systemic review, and to be perceived as legitimate by the participants.

Conversation and group discussions have been established to be very effective in rural planning. To facilitate people's understandings of the meanings assigned to places and to articulate their perceptions and values for landscapes, the visual method represented by photo-elicitation interviews has been used in studies on

[17] Chambers (1994) defines PRA as a variety of approaches and methods for learning about rural life and condition from, with, and by rural people.

community identities to understand visions for landscape change. Photo-elicitation is a primary method of study where photographs are followed with lengthy interviews (Stewart *et al.*, 2004). Photo-elicitation facilitates understanding connections between the local environment and the meanings regarding the community. Furthermore, photo-elicitation methods focus on perceiving the visual as a collaborative enterprise between the researcher and the participants in the research.

Harper (2002, p. 13) defines photo-elicitation as being '*based on the simple idea of inserting a photograph into a research interview'*, given that photographs are found to evoke a surge of memories. This is shown in Payne (2016) who experimented with oral history methods and photographs in an interesting intergenerational study with Inuit youths and elders. In this case, photographs of the community taken in the 1950s and 1960s were employed to trigger elders' memories. This has been scientifically explained as, the more isolated and sharper the stimulus received by the memory, the more it remembers. Additionally, photographs have been ascertained to be more evocative than words. This has further been explained by the evolutionary fact that the part of the brain concerned with processing visual information is older than that which processes words (Harper, 2002). This may account for the way photo-elicitation enlarges the possibilities of conventional empirical research thereby producing a different type of information (Ibid).

Common as the use of photography is as a research tool, Newman *et al.* (2006, p. 289) argued that using it as part of '*one's methodology is to engage with the theoretical debate, regarding the way photographs construct or capture the reality'*. Despite their growing popularity, visual materials should not be incorporated into research unless they are relevant to the research questions (Banks, 2001; Bryman, 2008). The value of any visual method is not confined to studies of overtly visual phenomena or simply the provenance of those who consider themselves to be good photographers or those who like to make films. The study and use of visual images are guided by the overall theoretical frame of the research; therefore, the research project and context should determine the appropriate media and method (Pink, 2004).

Visual materials, particularly photography and videos have great potential for ethnographers and qualitative researchers and can be introduced into qualitative research in various ways (Pink, 2004; Bryman, 2008) such as;

i. Analysis of existing photographs and video, for instance family albums and home videos, newspapers and magazines.
ii. Using photographs as prompts or topics for interviews and discussions in focus groups (photo elicitation).
iii. Participants asked to produce photographs and videos along certain themes for discussion and analysis later.

The process seems to be able foster a constructive and inclusive environment for research and was consequently applied in this research with the rural communities of the Niger Delta.

a) Photo-elicitation method

The photo-elicitation method works in this way: the participants are interviewed while viewing the photographs they took. This helps in developing the strategies that enable planners to integrate community based values. It is straightforward to use and participants can be directed to issues of landscape (Cumming and Norwood, 2012). The purpose of photo-elicitation interviews is to use photographs to guide discussions so as to generate themes, theories and issues. Depending on the goals, photo-elicitation can be used in combination with other methods (Dennis 2009). Photo-elicitation works extremely well with the young people and children (Newman *et al.*, 2006; Roe, 2006; Croghan *et al.*, 2008a; Pimlott-Wilson, 2012). Nonetheless, a number of the adult participants in this research found its use daunting and when asked to take photographs they delegated it to others who they perceived to be more competent (in one case a spouse i.e. husband) or undertook the assignment with offspring (youth). Therefore, in this research the method was basically designed and principally used with the children and youths who found it exciting.

b) Values of photo-elicitation

Photo elicitation has several advantages. The key strengths noted in Rose (2001) and Harper (2002) are:

1) The exploration of numerous issues by discussing a photograph or drawing, as it carries a great deal of information that can act as prompts. This provides the opportunity for the researcher to gain more and different insights into the social phenomena.
2) Photo-elicitation interviews with participant-generated photographs have been established to be valuable in generating information concerning participant's everyday lives, although they take things for granted. In so doing, these types of interviews provide the researcher with greater access to the participant's construction of self and furthermore, bridge the distinct worlds between the researcher and the participants.
3) Elicitation interviews with participant's generated images have been shown to empower the participants. The photographs enable them to play a central role in the research and interviewing makes them experts in the research process.
4) More than any other method, it has been argued that photo-elicitation demands collaboration between the researcher and the participants to comprehend meanings together; therefore, inspiring an ideal model for research (Harper, 2002).

The four strengths proposed above are also said to apply to all elicitation methods with visual imagery. Advocates of photo-elicitation also add the following list of strengths;

i. Detailed information is recorded and well understood
ii. Straightforward incorporation into the research
iii. Taking photographs is perceived as simple and fun.
iv. Though the photographs elicited longer and more comprehensive interview time, the nature and function of graphic imagery kindles latent memory and stimulates the release of emotional statement from participants as well as help the participants to overcome fatigue associated with conventional interviews.
v. It makes images the centre of the research agenda; therefore demonstrating the effectiveness of images. This could be from that of high quality fine art to that of family snapshots.

vi. By decentring the authority of the author, it has addressed some of the postmodernism of ethnography and has been suggested to be regarded as a postmodern dialogue, as it gives authority to the subject and not the researcher.

This research therefore acknowledges the potentials of the method for discussing landscapes in an exciting way and consequently employs it with the children and youths. However, there are two different approaches to conceptualising visual images and the method does have several limitations. These are noted and discussed below.

5.5.4 Approaches to role of visual images

The realist and reflexive approaches are two different ways of conceptualising visual images (Pink, 2004; Bryman, 2008). The realist approach has been the traditional way of capturing an event through photography or video and becomes information which the researcher interprets along with his/her other data. The image acts as a window on reality. The realist approach represents the traditional framework of realism, which implies that through the use of appropriate methods reality can be understood. Photographic images employed by researchers to explain their work or their fieldwork, operate within a realist unproblematic frame of reference. Within every day discourses photographs are testimonies and undisputable documents. This view remains the dominant paradigm according to Newman *et al.* (2006). However, they argue that photographs from a constructivist point of view are '*fundamentally part of modern social regulations and hence subjected to the gaze of a controlling modern state. Here the reality of a photographic image is rejected'* (p. 289).

The reflexive approach is collaborative. The participant has a say in what photograph to take and in giving meaning to the image photographed. The approach recognises fluidity of interpretations of the images as they become viewed by various people in different ways. A researcher under this approach is sensitive to factors that have influence on what has been photographed; therefore, emphasising the importance of context.

The limitations of photo-elicitation interviews are presented below:

a. Photographs are polysemetic, which signifies that they are capable of generating multiple meanings. They are the raw materials for many messages and can be constructed differently by each viewer (Schwartz, 1989).
b. It has been stated that photographs do not always elicit useful interviews (Harper, 2002).
c. There are three sites to explore in relation to the meaning of visual images used in photo-elicitation; the site of production, the site of the image and the site of its audience. These means how it is made, what it looks like and how it is seen (Rose, 2001). These three crucial ways are as complex as those in which verbal accounts are produced (Croghan *et al.*, 2008).
d. Occasionally the participant will re-appropriate the task set for them and define the extent and in what ways their photographs reflect the researcher's preoccupations.

In addition to the ethics of researching with children, which is presented in the next section below, this research considered the practical issues regarding photo elicitation. Central to any research with children is the use of appropriate methods. Photo-elicitation was selected to ensure what Punch (2002) suggests from experience of performing research with children, that it is better to combine 'traditional' adult research methods, such as interviews and participant observation with techniques suitable for use with children, for example those which are task-based. Traditional methods make children feel that they are not being patronised while task-based methods are child-friendly, recognising their lack of experience in one-to-one communication with adults. Planning a photo-elicitation project involves the following considerations (Rose, 2001; Pink, 2004).

i. Practical issues of budget, equipment and deadlines**:** This study employs in-depth study with a relatively small number of children and youth participants. This is because of the time available for the fieldwork as well as because photo-elicitation projects are more time consuming than some other research methods based on interviews. Other methods are employed for the landscape visions of other demographic groups within the time frame.

ii. Getting started and finding informants**:** Participants were identified from a school recommended by a gatekeeper. Children were aged from 9-17 years, and were from all communities in the case study areas. The selection of the participants was undertaken by the school and was delegated to the vice principal, using the researcher's guidelines. After the selection, the researcher held an interview with the head teacher to discuss her selections. As a consequence, the researcher was satisfied. A meeting was arranged with participants to obtain their permission, consent sorted and consent forms signed. Additionally, time was allowed for them to take their photos, to return the cameras and to have the photos developed in good time by the researcher (See appendix A). This was in order to hold interviews with participants before they forgot why they had taken the photographs (Rose, 2001).

iii. The camera: Most cameras used for photo elicitation are preferably single-use and disposable as they are easy to use and inexpensive to purchase (Pink, 2004). However, this researcher opted for cheap digital cameras. As this provides soft copies and allows the researcher control in developing the photographs and hence confidentiality on who views the photographs. The technology and logistics of processing the films from a disposable camera, in a rural area of Nigeria is also considered as well as the advantages of reusing the camera. Consequently the choice of a single use disposable camera is discarded. The chosen digital cameras had memory cards which were collected from the participants and the cameras given out to the participants as souvenirs. The photographs used for the interview were printed and numbered by the researcher for the photo-elicitation interview.

iv. Ownership of materials: The participants all gave their permission for the researcher to use the photographs as appropriate.

v. Collaborative aspect of the research: In considering the location for the interviews, the researcher chose the school. The school acted as a connection between the children, their parents and the researcher. The initial briefing interviews and the longer interviews held later, were conducted in the school, in the presence of staff, who maintained some distance during the individual photo-elicitation interviews.

vi. Information sheet for participants: A sheet was produced to inform participants what was expected of them at each stage, including dates and times and furthermore, how to contact the researcher with any questions (see Appendix B)

vii. Documentation and paperwork: The researcher sorted, numbered and catalogued all the photographs for analysis.

The ethical issues pertaining to the methods of data collection and conduct of this research are discussed in the following section.

5.6 Ethics of Qualitative Research

Literacy (2005) defines ethics as "a branch of philosophy dealing with values relating to human conduct, with respect to the rightness and wrongness of certain actions and to the goodness and badness of the motives and ends of such actions". Ethics is concerned with the general harm and benefits of the research with respect to the participant's rights to information, privacy, anonymity and furthermore, the researcher's responsibility to act with integrity (Silverman, 2013).

Within research, key phrases are used in a system of ethical protection. These are the principles of voluntary participation; the requirement of informed consent, secure from any risk of harm where harm is defined as both physical and psychological (Ibid). Two standards are applied in protecting participant's privacy (Seale *et al.*, 2004). These refer to participant's confidentiality, which assures that the identity of participant is not available to anyone not directly involved in the research. The other benchmark is anonymity concerned with the extremely stringent standard of privacy. This guarantees that the participant remains anonymous throughout the study (Seale and Silverman, 2000).

Apart from the typical ethics that are essential when conducting qualitative research, ethical problems are bound to be experienced as qualitative research involves contact with human subjects in the field (Silverman, 2013). Furthermore, with rules of engagement in the United Kingdom based on a Western ethical framework, researchers are advised to consider how their assumptions and practices may possibly differ from those of the participants that they study (Ibid) in the global south as "*there is no international agreement or regulations of ethical standards in research"* (Ryen, 2004, p. 231). The prepositional discourse of

research ethics dominant in the West prompts Riessman (2005) to support an ethics-in-context approach. This is as a result of the risks inherent in ethical universalism. Thus, the author defines this ethics-in-context as the application of "*universal moral principles that have been constructed (that is, derived) in one cultural context and exporting them without modification to another" (p. 473).*

As a PhD researcher from Newcastle University in the UK, I experienced these particular ethical tensions while conducting my research. The reason was that fieldwork in my country Nigeria was undertaken in a Region that is considered by the FCO[18] to be a conflict zone. In addition, I am not an indigene of that Region; hence, I do not share the culture, ethnicity and religion for my respondents. Consequently, the University's ethics committee was uncomfortable with my undertaking the fieldwork due to safety and security reasons, as I am an insider-outside. Nonetheless, I was confident that my research objectives posed little threat to me or to those participating in the research. This is because the research has no political significant and therefore, is not prone to any conflict of interest. There was certainly risk to safety and security but this existed in most parts of Nigeria in 2013 when the research was undertaken if journeys were not planned with caution. Confident that I understood my country's terrain and had made adequate plans for our security, I therefore provided a disclaimer to the University and in turn Newcastle University provided me with the necessary support for the fieldwork. I acknowledged the dilemmas, the globalisation of research ethics, as well as the ethics-in-context approach. Ethical considerations are significant in 3 (three) main areas of this research. These are with regard to:

1. Research in a different culture and conducted in a conflict zone.
2. Research with children
3. Research with visual materials.

The ethical issues for each are elaborated upon below.

[18] FCO is an abbreviation for the Foreign and Commonwealth Office.

5.6.1 Ethical issues with respect to research in different cultures and in conflict zones

The Niger Delta States have been designated a conflict zone in the FCO travel advice owing to the increased threat of kidnappings and armed attacks on oil and gas installations. The Niger Delta was not perceived to be a war zone during the conduct of this research as it was not an area marked by extreme violence. Nonetheless, it was extremely volatile and therefore, as conflict zones are characterised by seemingly chronic instability and insecurity, an understanding of the "*unconventional elements of complex emergencies*" which I explored, examines the ability of researchers to ensure their own safety in the field and encourages practical connections with other actors, particularly those related to security (Desai and Potter, 2006). The literature reveals that the dynamic character of patterns of violence can also offer opportunities to researchers. If a researcher has a "*and there I was, right in the middle of it!"*, it usually means that he/she did not plan carefully or made a poor decision. This, does not mean that this sort of research is danger-free. Nevertheless, the types of risks involved do not usually correspond with popular imagination.

Literature has shown that a conflict zone should not be a field site for anyone who does not already have several years of experience in settings in the developing world. Things can go very wrong and very fast. Success working in a conflict Region takes time, persistence, and patience, and usually a bit of luck (Giles and Hyndman, 2004; Jacoby, 2006; Wood, 2006; Bøås and Dunn, 2007; Helbardt et al., 2010; Mitchell, 2013). Several other authors (Romano, 2006; Vlassenroot, 2006; Begley, 2009) argue that successful research in conflict Regions is not conditioned by the level of insecurity as such, but by researchers' abilities to adapt to the conflict environment, their contacts with local actors or partners, their understanding of the conflict, and flexibility in the use of methodological tools. A conflict zone by definition is rather nebulous and as a zone, it is imprecisely delineated and therefore, challenging to define or even describe in accurate terms (Mackinlay, 1999).

Words of caution and advice found in literature (Roche *et al.*, 2001; Alasuutari, 2004; Binns, 2006; Mitchell, 2013) demonstrate that no set of standards can

possibly anticipate every ethical circumstance and that some of these ethical principles and guidelines present challenges in some cultural contexts. The cultural and ethical codes may also reflect the dominance of certain epistemology and ontology in contrast to others (Seale et al., 2004) and presents issues for community based participatory researches because of their complexities.

Moreover, in addition to being up to date with occurrences in the Niger Delta Region by means of personal contacts and Nigeria's local daily newspapers, I was very conscious of my limitations, particularly with respect to travel to a number of communities in the Region. I therefore decided to cut out completely those areas that the FCO designated as no go areas and to further abide by Newcastle University's safety and security concerns, given that research ethics committees are employed to recognise these complexities and modify some of the existing requirements to fit community based participatory researches (www.publicengagement.ac.uk). This concern was also acknowledged by Alasuutari (2004, p. 595) who cautioned the globalisation of qualitative research in which it is assumed that " *irrespective of where one lives and does research, to an ever greater degree we share the same theories, methods and ideas…[on] how to make sense of human phenomena"* . Ryen (2004) states clearly that there is no clear international agreement or regulation in relation to this assumption, as is evident from projects performed across the North-South divide.

5.6.2 Ethical issues regarding research with children

The other set of ethical issues relevant to my research has to do with conducting the research with children and youths. Inclusion of children and young adults in research is complex from a legal position and the definition of children can also be confusing. However, according to the UN Convention of the Rights of the Child (UNCRC), children are defined as those less than 18 years of age. This research adheres to this definition. Children are considered to be vulnerable and relatively powerless and thus, should be protected (Morrow and Richards, 1996). It is worth noting that social research generally has salient ethical issues that apply to all groups. These are noted below (Thomas and O'Kane, 1998):

a) The need to obtain informed consent is relevant and can often be problematic
b) There are always issues regarding protection and the researcher is responsible for the well-being of the participants in the research
c) The issue of confidentiality arises in every case
d) Dealing with disclosure of information makes the researcher concerned for everyone's welfare
e) Exploitation within the research process and possibility of the researcher's abuse of the research participants is always present

However, despite the numerous ethical principles and guidelines found in the field of research with children, generally, the ethics of research with children is concerned with two key issues: informed consent and the protection of the child participants (Thomas and O'Kane, 1998; Morrow, 2001).

The accepted definition for informed consent includes three specific sets of interactions (Cocks, 2006), which can be noted beneath:

i. Presentation of information
ii. Understanding, subsequently followed by
iii. A response

The key to research with children lies with obtaining parental consent (Appendix A). However, Riessman (2005) identifies how strangers seeking information and bearing forms are not easily trusted, particularly in rural villages. For that reason, other ways of acknowledging consent and obtaining parental permission were explored through community leaders and schools in the community. Acquiring consent presented difficult issues of suspicion especially from parents with low literacy levels. Nonetheless, parents were willing to allow their children to participant although they became tired of signing some of the necessary consent forms.

Assent is the term used to express willingness to participate in research by persons who are by definition too young to give informed consent. It is represented in the relationship between the researcher and the researched and is enhanced by the researcher's reflexivity. Recognising the vulnerability of the children as identified in Punch (2002), this research was conducted with a crucial understanding of the

fundamental differences between researching with children and with adults. I ensured my views were not enforced and used clarity of language. Additionally, the research setting and context was the school which was already a familiar environment for the children.

5.6.3 Ethical issues regarding visual methods in areas of research

The decision to use Photo-elicitation as one of the methods of data collection was related to the demographic composition of the Region. The high percentage of youth and children (NDDC, 2006) made it imperative to provide them with a voice in this research. The choice of the visual method for this research presented two types of ethical issues. The first applies to the use of visual methods themselves, whilst the second is with respect to researching with the children and youths of the Region, as discussed above (5.6.2).

Rose (2001) argues that researchers dealing with visual methods, particularly photographs agreed on three areas which tend to raise ethical dilemmas. These are consent, anonymity and copyright. Anonymity is a genuine problem because researchers work with photos and these create pictures of recognisable people. This was a definite issue in the conduct of my research as people in rural areas of my country naturally like to pose for photos, especially if they are aware they will be published.

Gaining consent refers to people agreeing to do or be part of the research. This constituted an ethical issue for my research and one which was problematic. In the research photographs were taken of cultural landscapes and people are part of these landscapes. It was not always possible to seek consent from people who happened to be around the field of vision at the time pictures were taken and moreover, many of the people in the field of vision elected to be in the photographs.

Copyright is also an ethical issue, referring to the ownership of the photographs. Copyright laws confer the right of ownership to the person who made the image. This did not pose a serious problem for my research, as this was resolved through negotiation with the participants, who gave permission for all photographs to be used in the research.

PART B

5.7 Fieldwork and data collection in communities of the Niger Delta Region

What the reality is (ontology) and what the relationship is between the researcher and that reality (epistemology) and what methods can be used to study the reality (methodology) of this research (Punch, 2016) have been established in previous sections in this chapter. Constructivism, implies that "*social properties are outcomes of the interaction between individuals*". An interpretivist theoretical perspective, suggests that the understanding of visions for landscape change is through the eyes of the research participants. This research used an inductive research approach whereby theory is generated from research (Bryman 2008). The research design is case study research and the methods of data collection are interviews, transect walks, photo elicitation interviews and focus group discussions.

This second part of the chapter reports the fieldwork conducted in the case study communities. It briefly describes the case study communities, beginning with how they are selected and then runs through the conduct of the research.

5.7.1 Selection of case study communities

As already discussed, shortly before the field work study, the Foreign Commonwealth Office (Foreign Commonwealth Office, 2013) Travel Advice had prohibited travel to Nigeria and earmarked the Niger Delta Region amongst others in Nigeria as conflict zones. The document says:

"The FCO advise against all travel to the riverine areas (i.e. the river and swamp locations on or close to the coast accessible by boat, but not by road) of Delta, Bayelsa, Rivers, Akwa Ibom and Cross River states. The FCO advice against all travel to Warri"

Therefore, issues of safety and security became a priority. Hence, the case study communities were cautiously and continuously evaluated, in order to identify the locations that addressed the concerns of the university and the FCO, while at the same time enabling the aim of the research to be achieved. It also implied that

limited travel was undertaken and travel distance from and within locations was greatly reduced upon the advice of the FCO.

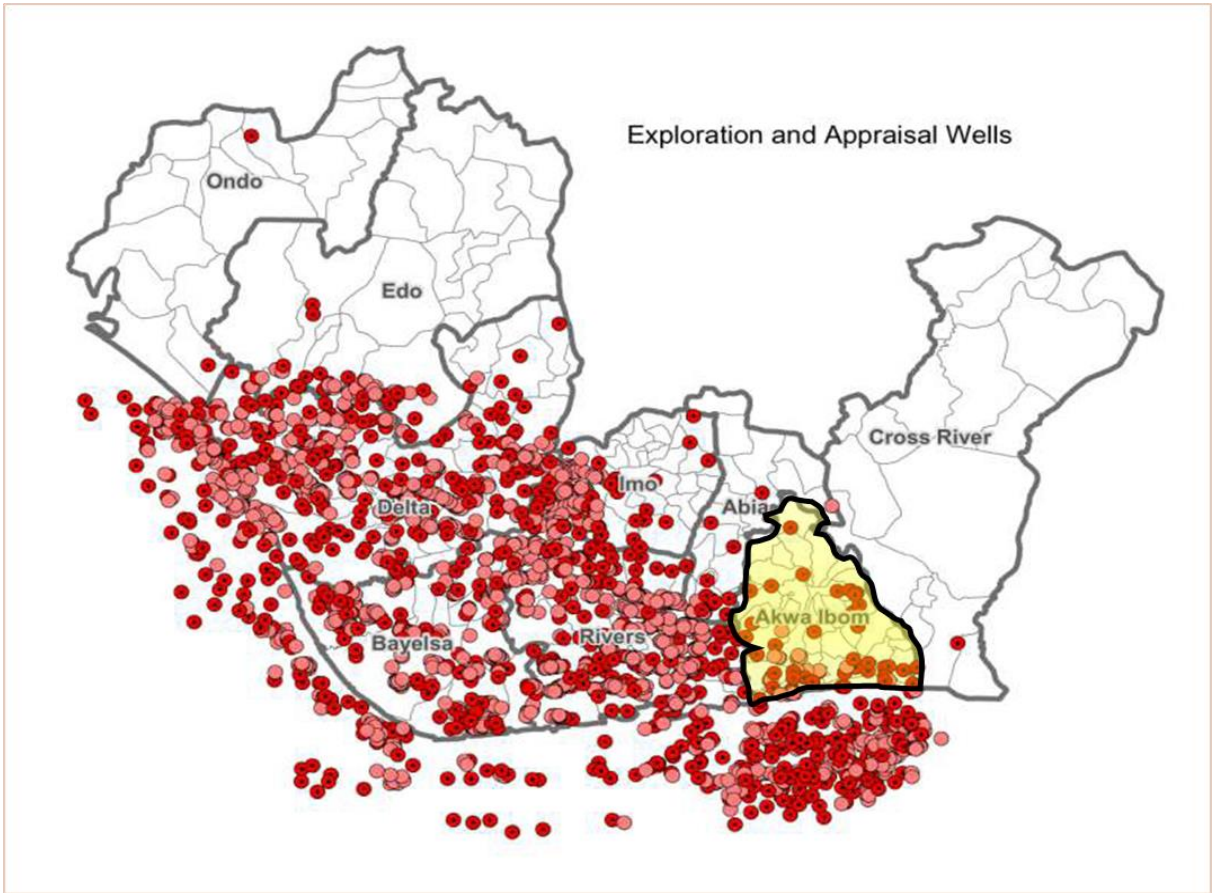


FIGURE 5.2: LOCATION OF OIL EXPLORATION AND APPRAISAL FIELDS (AKWA IBOM STATE HIGHLIGHTED)

Source: Adapted from NDDC (2006)

Through the study of maps of the Region (NDDC, 2006) and state documents (Akwa Ibom State Government, 2012a), I distinguished two broad categories of community landscapes within the Region. There were communities with and without oil exploration activities in their territories, as shown through the location of oil exploration and appraisal fields (Figure 5.2). The oil exploration activities were also either onshore, that is inland, or offshore, as explained in detail in Chapter 4. The selection of case study communities therefore reflected these categories of types of landscapes.

Akwa Ibom State was eventually selected because it was one of the nine states in the Niger Delta Region that had enjoyed relative peace and stability as of 2013,

and also as it was host state to the second largest oil exploration activities in Nigeria. It also had the biggest offshore oil exploration site, which is run as a joint venture with the Federal Government of Nigeria and Mobil Producing Nigeria (MPN). The venture comprised about 300 producing wells operating from over 90 platforms with a capacity of over 550 thousand barrels a day of crude, condensate and natural gas liquids (Idemudia, 2009; Thurber et al., 2010; Hassan, 2013).

The oil exploration activities were mainly offshore, which made it more straightforward to locate the two types of communities within close proximity, which the research set out to investigate, i.e. those with the presence of the exploration activities and those without. The concern for security and safety also dictated the timeframe for the research, which was one point in time and thus, cross sectional. The time frame used what Gray (2004) calls a snapshot approach. The choice of the communities presented a further advantage related to the pressure of travel time; hence, addressing an additional concern of Newcastle University. Communities were twelve to forty-five minutes' drive away from each other and also from Eket where the researcher had accommodation. The people of the Niger Delta Region traditionally live in small pockets of grouping known as communities. These groupings live in close proximity of each other (Figure 5.3); within or surrounded by their farms (NDDC, 2006).

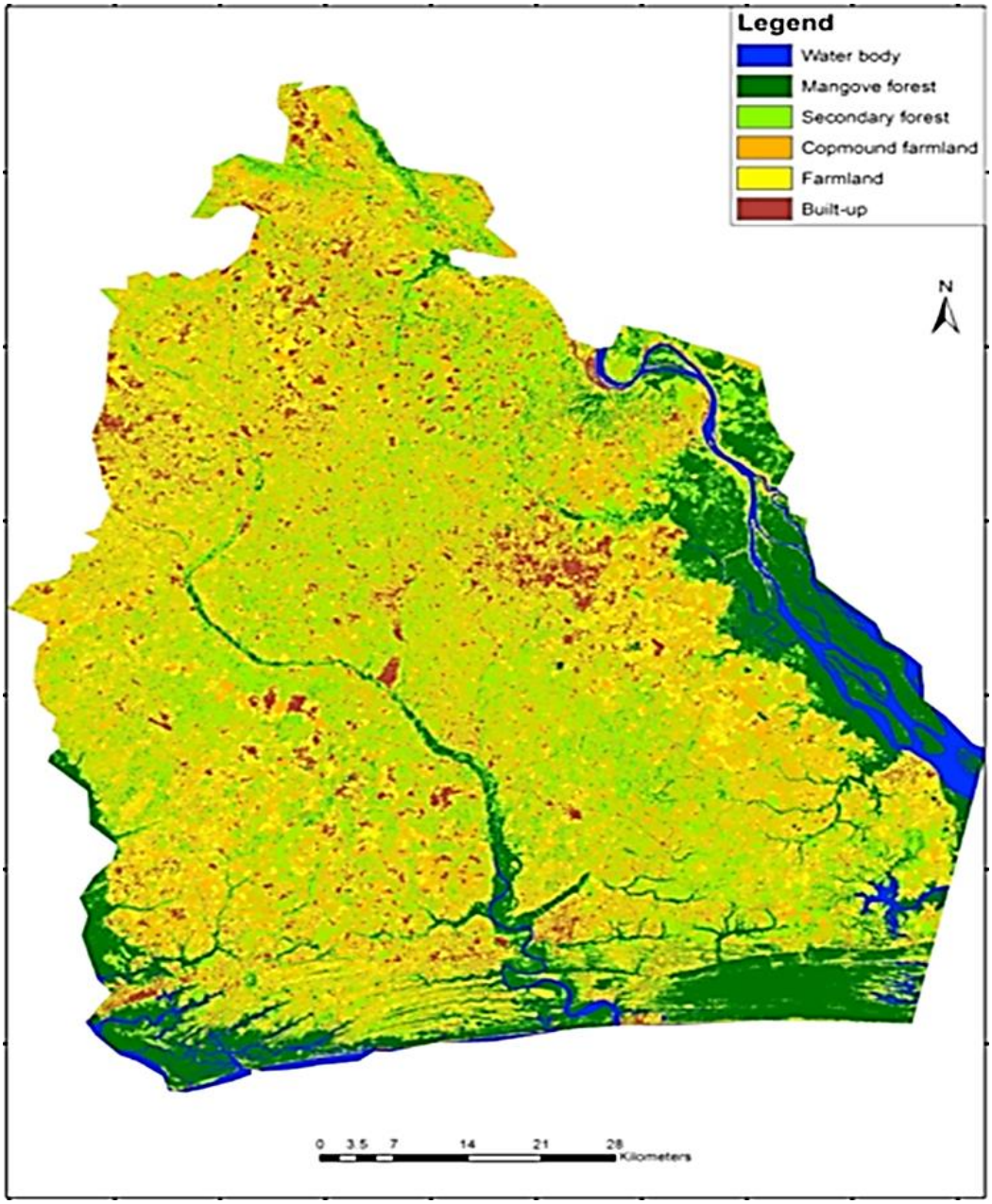


FIGURE 5.3: MAP OF AKWA IBOM SHOWING THE DIFFERENT VEGETATION AND LAND USE

Source: Hula (2014)

Fifteen local government areas (LGA) were represented by 116 participants in the data collected. I was able to see the landscapes of approximately 11 LGA (Figure 5.4) while travelling along various safe routes from Ibeno to Eket and on to Uyo, the state capital. I undertook transect walks in 5 communities in four different LGA (Ibeno, Eket, Uyo and Ikot Abasi LGA). Three communities were from three LGA without oil exploration activities, one of which was peri-urban (Etoi in Uyo LGA),

whereas the others were rural (Figure 5.5). Ibeno was the only LGA with oil and gas exploration activities in the state. Participants in the interviews provided me with access to those communities that were accessible by cars, while the security detail and driver made contact to confirm the safety and security of the area. The paramount ruler (The overall leader in community) and the secretary to Ibeno Local government, who is an 'Obong' (community leader and head of clan) gave me their contact numbers should I encounter any threat to my security.

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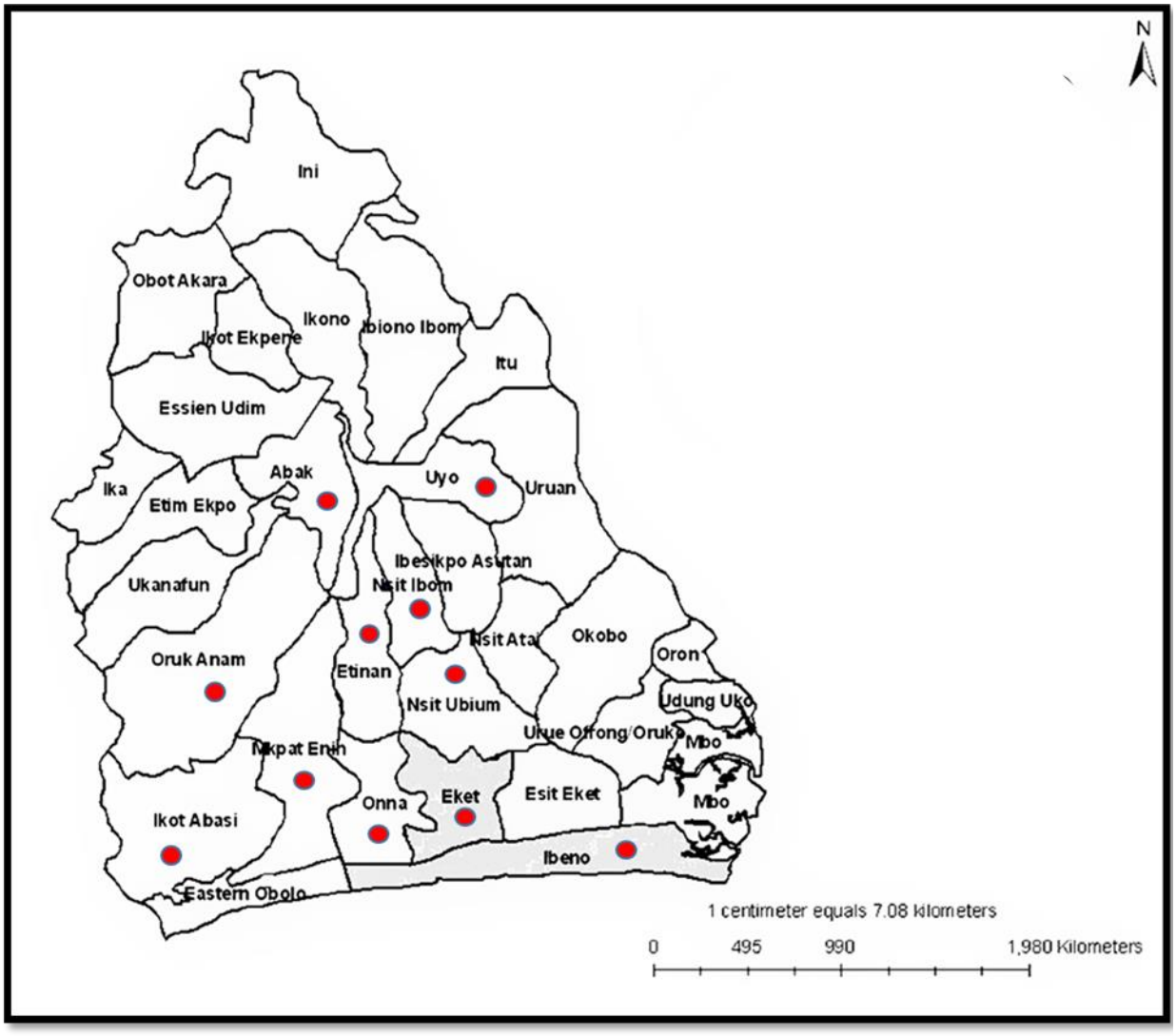

FIGURE 5.4: MAP OF AKWA IBOM STATE SHOWING LOCAL GOVERNMENT AREAS VISITED AND THE TWO CASE STUDY LOCAL GOVERNMENTS SHADED

Source: Ite *et al.* (2014)

FIGURE 5.5 TRANSECT WALKS

Above: Foot path and front garden in Ikot Abasi
Bottom: A modern street in Eket and the waterside at Ibeno
Source: Fieldwork 2013

5.7.2 Access and Gate keepers

In order to gain access to communities in the Niger Delta Region, it is imperative to be acquainted with their traditions. Therefore, by means of the literature review (Talbot, 1926) contact with colleagues and enquiries from indigenes of the Region, I understood that to best gain access to the community was through the community leadership (See Figure 5.6 and Appendix A). Once the confidence and support of the elders had been obtained, cooperation with the community would be easier. Gatekeepers therefore became necessary because I was an insider-outsider. Gatekeepers are individuals who reside within the communities, provide access, locate people and identify places relevant to the study (Creswell, 2008).

FIGURE 5.6: MEETINGS WITH COMMUNITY ELDERS

Left: Meeting for Access at Ibeno
Right: Meeting for Access at Ikot Abasi
Source: Fieldwork 2013

I received the assistance of a friend and colleague who had just concluded her PhD at the School of Architecture Planning and Landscape at Newcastle University in 2013 and who was from Akwa Ibom State, and additionally her husband was an 'Obong', that is a community leader. The first gatekeeper was therefore introduced by my friend's husband. The gatekeeper was also an Obong[19] meaning elder statesman and a community chief and clan head of Eket and Udua clans; his wife (*Obongawan*), who was also a community leader by virtue of being his wife as well as in her own right assisted in sourcing the participants for the research as shown in Figure 5.7. The wife (*Obongawan*) of the elder statesman did much of the sourcing as her husband was always exceedingly busy attending to the daily running of his clans. Nevertheless, he contributed a considerable amount in the focused interview and referred me to places that would make issues clearer and relevant books in addition to local documents in neighbourhood libraries.

I initially thought only one gatekeeper would be used. However, three gate keepers were eventually employed because the first gatekeeper was from Eket, the

[19] Obong in Ibibio means ruler, king, lord, chief or head depending on the office concerned. Hence for a village it means head of the village.

community without oil exploration and he was not able to provide access to Ibeno, the other communities with the presence of oil exploration activities at that time because of hostilities as a result of a boundary dispute between the two communities. Only three weeks prior to the fieldwork, hostilities had broken out between the two neighbouring communities, Ibeno and Eket. The first gatekeeper, even though he was a community leader was therefore not able to introduce me to Ibeno, the community with oil exploration activities.

As a consequence, a second gate keeper was sought by my hosts (family relations with whom I stayed during the fieldwork study). The gatekeeper was an aunt to a princess from Ibeno who was familiar to my hosts. The second gatekeeper then introduced me to the paramount ruler of the Ibeno clan, who invited me to meet with the community leadership a few days later on the 18th of May 2013.

The decision to locate a third gatekeeper arose when I noted that the participants were mostly women and wondered whether it had anything to do with both the gatekeepers and the fact that I was a woman. The third gatekeeper was therefore a male who was introduced to me by the security detail who was attached to me. As a result, this provided me with access to additional male participants in Ibeno (Figure 5.8).

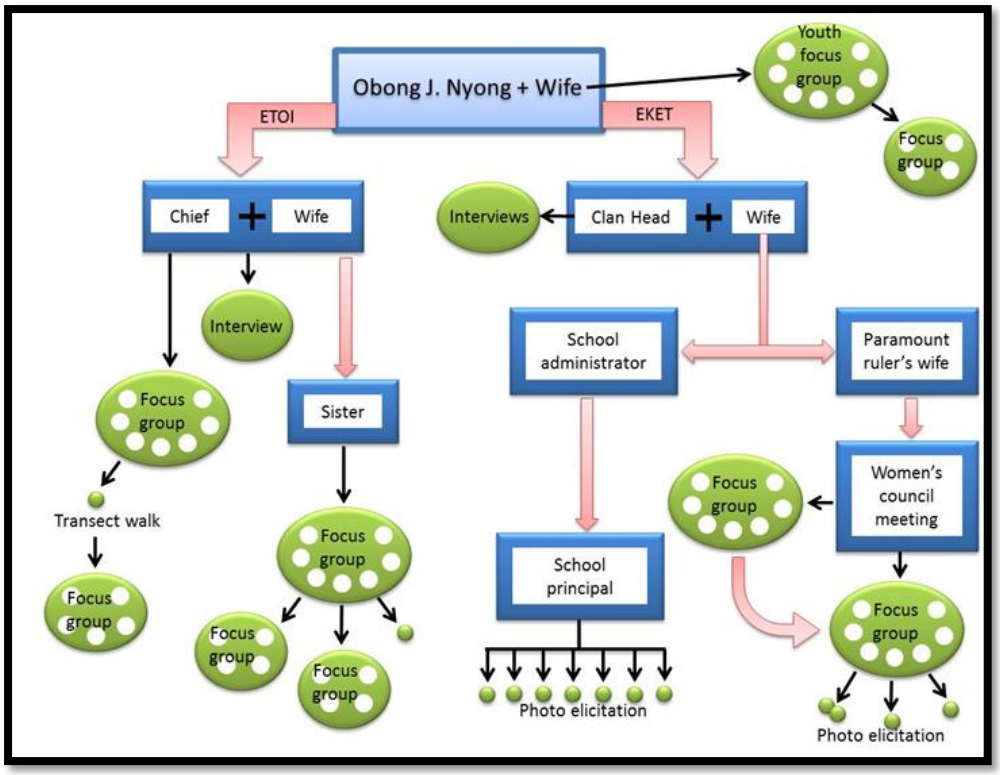

FIGURE 5.7: SHOWING HOW INDIVIDUAL PARTICIPANTS WERE IDENTIFIED THROUGH THE FIRST GATEKEEPER

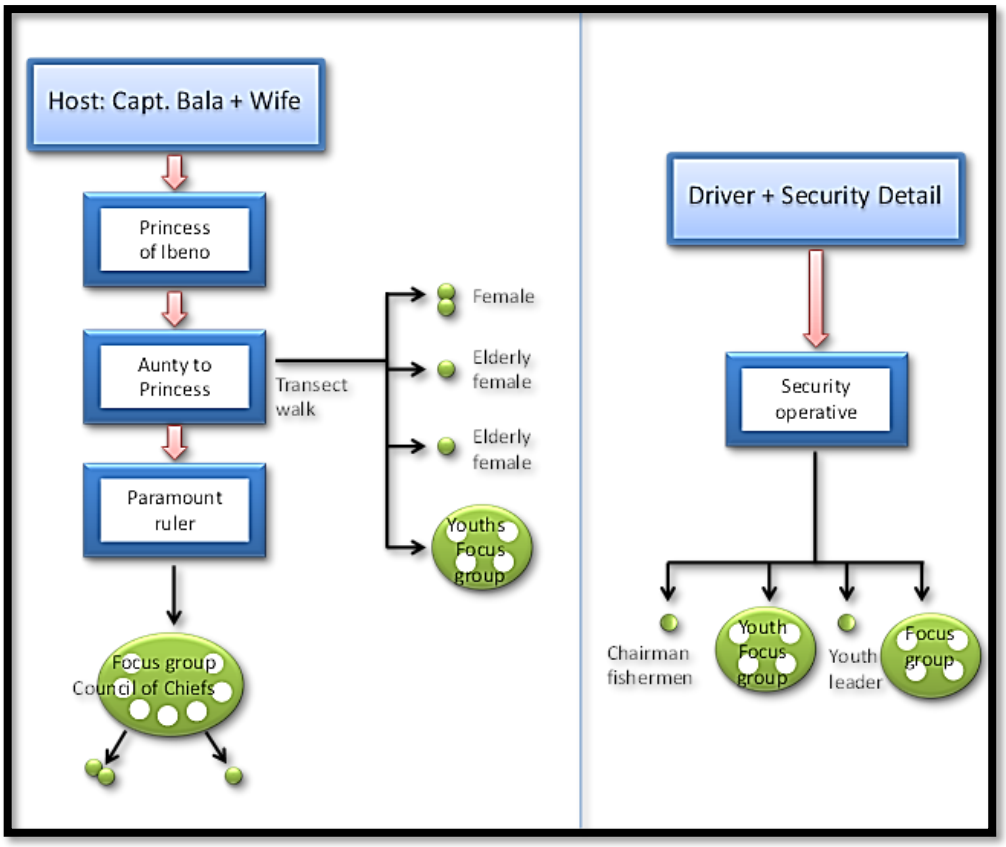

FIGURE 5.8: INDIVIDUAL PARTICIPANTS IDENTIFIED THROUGH THE SECOND AND THIRD GATEKEEPER

5.7.3 Sampling Procedures

The literature explains that with regard to qualitative research methods, even if it is possible to collect data from everybody in a community, it is not necessary when attempting to obtain valid findings. This is because the number of people to select is determined by the objective of the research and the characteristics of the study (Grbich, 2012). In order to answer the research question, purposive sampling was conducted at more than one level. Purposive sampling has been defined as a non-probability sampling strategy, *which selects participants on the basis of being considered as typical to a wider* population (Gray, 2004). Additionally, Bryman (2008) mentions that purposive sampling typically occurs at more than one level. In this research, at the initial level of selection, two types of communities were identified as case studies from the two categories of community landscapes in the Region (Figure 5.2). On the second level, these two categories of community landscapes were homogeneous, in terms of historical, political, cultural and linguistic linkages and also location proximity; they are all in Akwa Ibom state. On

a third level, the selection had heterogeneity concerning participants' age, sex, level of education, employment and dialects from the different communities representing those with the presence of oil exploration, or from the different communities in the case study area. Furthermore, the heterogeneity also extended to their level of exposure to modernisation and urbanisation.

It should be pointed out that participants were in natural pre-existing groupings and snowball sampling was used for most interviews. Theoretical sampling was also employed for the selection of transect walk communities based on emerging theoretical themes from focus group discussions that concentrated on "roads" and "livelihoods" as primary change drivers.

5.8 Methods of Data Collection

5.8.1 Fieldwork questions

The questions that were taken into the field were derived from the Framework Model developed by Carl Steinitz (1990, 1995) for alternative futures studies. This framework was used in a case study to investigate social learning outcomes of landscape and urban planning to benefit decision making on climate change adaptation (Albert *et al.*, 2012). Stremke *et al.* (2012) employed this frame it with the aim of developing integrated visions for long term Regional design. This research employed the six questions to organise the field work questions (See Figures 2.11 and 2.12 on the Framework Model in chapter 2).

5.8.2 Interviews and Photo elicitation

Semi-structured interviews and photo-elicitation were the two principal methods for interviews applied in this research. The semi-structured interview was used for the adults and youths, whereas the photo elicitation was used for the children (Figure 5.9, Appendices B and C). A total of 15 semi-structured interviews were conducted with adult women and 10 with adult men. 7 children participated in the photo elicitation interviews (Table 5.1). Furthermore, during one of the focus group discussions, the women were presented with digital cameras to take photos of the landscapes they talked about, seeing as most of the landscapes were impassable to the researcher. Of this group of 5 women; one gave the camera to

her husband; another gave it to her daughter, who was a graduate, two others took the photographs together with their children and the fifth did the photographs herself.

The ‘husband’ and the pair representing ‘mother and daughter’ were selected for further discussions. The selection was performed based on photographs taken with no previous knowledge of who took what.

FIGURE 5.9: THE PHOTO-ELICITATION INTERVIEW

Top and middle rows: Photo-elicitation interviews with child participants
Bottom: Photo-elicitation with adult group
Source: Fieldwork 2013

However, as the researcher required more insight into certain phenomena or to generally explore the terrain as an insider-outsider, the unstructured types of interviews were also explored, particularly in the exceedingly large focus group. The researcher used:

a) Informal conversational interviews during the meeting with the leadership, in order to gain access to the community. It involved the

introduction of the researcher, the research and its purpose. There were usually 17 to 20 participants. A number of the fieldwork questions were answered here although it was predominantly insights which were provided in relation to the situation. Four such groups were used.

b) Focused interviews were used with key informants and also with several participants in the groups who were able to shed more light on the background to various issues raised.

FIGURE 5.10: PARTICIPANTS FOR INTERVIEW AND FOCUS GROUPS

Top Row: Individual participants for semi-structured interviews
Middle Row: Focus groups with elders
Bottom: Focus groups with youths
Source: Fieldwork 2013

5.8.3 Focus groups

A hundred and nineteen people from 15 local government areas participated in one way or another in the research. Approximately 80 were in the different discussion groups. This was for the reason that initial access to the community was always by way of a large group of elders and community leaders who had to be briefed with regard to the research and who were also always very eager to make a contribution. Secondly as the research set out to sample community visions, it encouraged issues to be discussed by individuals as members of a group, instead of as individual participants (Bryman, 2008). See Appendix 'D' for Fieldwork interviews

FIGURE 5.11: SELECTION OF PARTICIPANTS FOR FOCUS GROUPS ALWAYS FROM LARGER GROUPS

Top Row left: Paramount ruler and traditional leaders at Ibeno
Top Row left: Church members at Etiam Etoi
Bottom Row left: Students of Akwa Ibom State University Mpat Enin
Bottom Row right: Villagers at Onna
Source: Fieldwork 2013

Participants for the focus groups were usually selected from a larger group discussion, where non-directive interviews had been employed (Figure 5.11). Focus groups according to Bryman (2008) are a form of group interview with many participants and a moderator or facilitator with emphasis on firmly defined questioning. Thus, the aim is a joint construction of meaning. Creswell (2008) notes that focus groups have the advantage of several participants being more willing to discuss difficult issues in the presence of others; moreover, some answers can inform others. Additionally, group ideas may be generated that could otherwise have been difficult to discuss on an individual level. There were seven smaller focus groups, two of which consisted of male youths; one with female youths, one with women, whereas the other was a combination of youths and adults.

5.8.4 Transect walks/drives

Triangulation is used in the study of a social phenomenon, in order to examine data by the use of more than one method or sources of data (Bryman, 2008). The research therefore collected data by way of transect walks, as a further source of understanding how the landscape functions and the reported changes that had occurred, their drivers and actors, in addition to gaining a better understanding of the participants' descriptions of their landscapes. The transect walk was therefore undertaken together with the participants and afforded them the opportunity to express their concerns on current activities within the landscape and to proffer suggestions on alternative future landscapes.

The prevalence of the emerging theme of accessibility and livelihood as a major driver of future landscape change in the interviews, led to the theoretical sampling of two additional communities to gain further insights. The transect walk (Figure 5.12) was used with five communities (Onna, Mbak, Eket, Ibeno and Etiam Etoi). The researcher also carried out an observational survey by car of 11 local government areas covering the two categories of landscapes with the intention of acquiring a better understanding of landscape issues.

FIGURE 5.12: TRANSECT WALKS

Top Row: Ibeno Waterside
Middle Row: Onna, Mbak Villages
Bottom Row: Etiam Etoi landscape undergoing Modernisation
Source: Fieldwork 2013

The table 5.3 presents an overview of the methods of data collection used in this research on the target population.

TABLE 5.2: OVERVIEW OF METHODS OF DATA COLLECTION

Methods	Target Population	Data Type	Sample size
Oral History	Elders: Male and Female	Audio recordings Transcripts Transect walk	2 participants through snowballing
Photo elicitation Interviews	Children and Youths	Landscape photographs Audio recordings Transcripts	7 children, 1 male adult, 2 participants; a youth and mother, 1 adult female, 2 adult females with their children.
Semi-structured Interviews	Adults Youths	Audio recording Transcripts	15 women and 10 men
Focus group discussions	Elders Adults Youths	Audio recordings Transcripts	7 number focus groups of various sizes.
Transect walks	Communities	Audio recordings Photographs Transcripts	5 number transect walks in communities

5.8.5 Libraries for secondary data / state documents

Three libraries in the locality were used to source state documents, maps and other information to consolidate data from the fieldwork. These were the E-library in Uyo, the University of Uyo library and the Akwa Ibom state library in Uyo (Figure 5.13). An attempt to secure aerial photographs of the case study area (over time) from archives, as an additional source for triangulation, in order to compare changes to the landscape was unsuccessful due to time constraints and the need to return to Newcastle, as a consequence of expired insurance.

FIGURE 5.13: THREE LIBRARIES CONSULTED FOR STATE DOCUMENTS
Source: Fieldwork 2013

5.9 Issues of ethics

Punch (2016) points out the various stakeholders in research, such as University, supervisors, participants, examiners and other readers, in addition to the researcher. It is the overarching responsibility of the researcher to ensure the integrity of the research, as well as respect for all. Issues examined prior to the conduct of the fieldwork study were with regard to ethics concerning children and photo elicitation interviews, as well as those of safety and security for the researcher in this study and all the participants**.** Ethical approval was eventually granted by the University of Newcastle. Consequently, for the photo-elicitation, children were approached by way of the school as initially planned. The necessary initial briefing was performed in the school in the presence of several staff.

Subsequently, the interviews were conducted in various secure locations with the school visible. The seven students who took part cut across ages, classes and sex and furthermore, were selected by the school after being briefed in relation to the participants required. Afterwards, the vice principal was interviewed in connection with the selection.

Necessary documents, for instance the photo elicitation guide, participant's information sheets and consent forms were given to the children to take home to discuss with their parents. Parental consent was sought and given. All elements of risk that were raised were addressed during the initial briefing prior to the exercise and participants fully understood the purpose of the research (See Appendix E).

All the participating children enjoyed the exercise and their parents were pleased that their children had participated. The photographs taken were voluntarily given to the researcher; taking care of all issues pertaining to copyright and moreover, the participants were given the digital cameras as a token of their participation. The school also endorsed the children's signed consent forms.

- Safety and security

No problems were encountered as an insider-outsider when conducting the interviews with all the participants, as they found the topic interesting, although serious. Material was not considered to be sensitive, and all expected traditional protocols were observed. On occasions, when protocols were overlooked as the gatekeeper had forgotten to pass on the information, we were jokingly reprimanded that protocol had been breached; thus, the researcher ensured that they were corrected immediately.

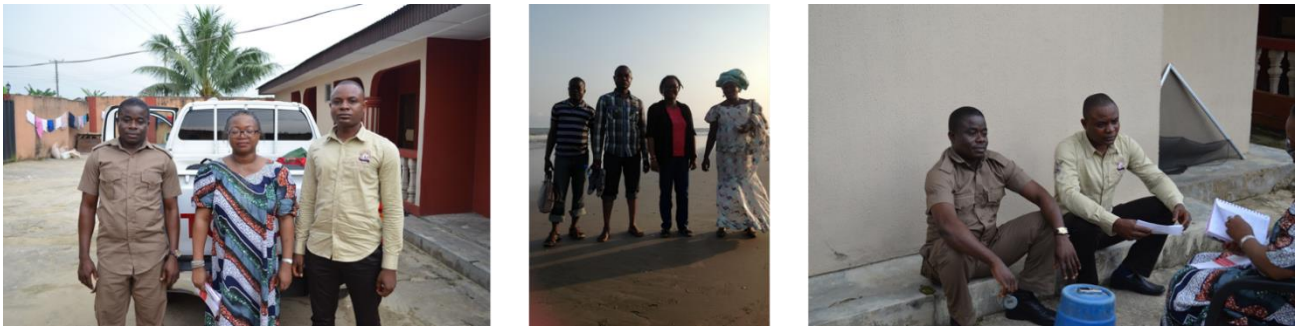

FIGURE 5.14: THE RESEARCHER'S TEAM

Source Fieldwork 2013

Covert security was provided by the Nigerian Armed Forces in case the area turned hostile (Figure 5.14). The researcher informed the security of locations she wished to visit and then, the security team worked out the routes, including landscapes of interest on the way. Occasionally they advised against a particular route because it was not accessible by vehicle or for security reasons. Additionally, the researcher conducted herself with transparency and identified well with the indigenes, including their mode of dressing. As a result, no security threat was experienced.

Permission was granted to record the interviews and even to make videos; the camera and voice recorder were conspicuously displayed. Photographs were taken with all the participants, consent forms signed and permission to use the photographs obtained (Appendix F). In addition, on return from the fieldwork the gatekeepers were thanked for their support and efforts.

5.10 Methods of Analysis

Interviews and focus group discussions, as well as photographs from the transect walk and photo-elicitation constitute data from the fieldwork. They were transcribed from audio data to text data using conventional methods, as this allows further scrutiny of the participants narratives and social worlds (Miller and Glassner, 2011) The data, consisting of those sourced from adult males and females, in addition to those of children and youths were collated for each of the two categories of landscapes represented by community A with oil and gas exploration activities and community B without the activities. An initial analysis on the transcripts employed open coding to answer questions based on the imposed themes taken from the

Framework Model (Steinitz, 1990a; Steinitz, 1995; Steinitz, 2012). This revealed underlying ideas in the data and allowed for the grouping of similar ideas into categories. Hence, analysis of the data was undertaken under the themes of Landscape Representation, Process, Evaluation and Change.

The second stage involved axial coding, where data that can relate to one another was identified and subsequently grouped together. Axial coding according to Gray (2004) attempts to make a connection between categories and sub categories, which means it connects phenomenon to the context, the action and interaction that stems from it and its consequences. The codes are then examined again for more mergers or regroupings and labels are then assigned according to the objectives. Theories are generated from the data; hence, firmly rooting this research in a grounded theory approach as described by Charmaz and Bryant (2011, p.292):

"Grounded theory is a method of qualitative inquiry in which researchers develop inductive theoretical analyses from their collected data and subsequently gather further data to check these analyses. The purpose of grounded theory is theory construction, rather than description or application of existing theories ".

Grounded theory can be regarded as a method, an approach and a strategy. Most importantly the theory is developed inductively and grounded in data; the hypothesis in grounded theory is taken from data (Punch, 2005). Grounded theory differs from other approaches, in that data collection is not a discreet stage in the research, but that data is collected, analysed and subsequently an additional set of data is collected and analysed, so on and so forth (ibid).

Theoretical sampling was undertaken based on the initial analysis, for example when the visions for change of several of the communities were "road construction", in order to comprehend the vision, communities experiencing new road constructions were visited (See also Section 6.1). However, the time frame and safety factors involved in the research meant procedures regarding the thematic analysis approach were also adopted. This is supported by Rapley (2011, p. 274) who advises the development of a 'qualitative analytical attitude' when the need arises, as *"the practice of good (or even adequate) qualitative analysis can never be adequately summed up by using a neat tag".*

In this research, the unit of analysis is however the community. Information on the analysis is given in detail at the beginning of the chapters 6 and 7. These include the approach, and strategy and indicate the background of the participants and the outcomes. The chapters provide analysis relating to the two categories of communities in the Region.

5.11 Conclusion

As previously mentioned, the communities of the Niger Delta Region can be categorised into two groups. The first category comprises communities with the presence of oil and gas exploration activities, while the second is communities without oil and gas exploration activities. The first group of communities with oil and gas exploration activities have exploration onshore and offshore.

For reasons connected with safety and security at the time of conduct of the research as well as the nature of enquiry, which sets out to identify the visions of future landscape change with the communities, for the purpose of understanding the implication for future sustainable landscape planning of the Region, this exploratory research employs participatory landscape planning methods. It keys into the peculiarities and sensitivities of the society such as different demographic groups, literacy levels, unemployment and underdevelopment and the Region's sensitivity to undergoing research with no visible positive outcome. The research therefore with the aid of reviews of literature, identifies appropriate models to guide the fieldwork and employs a variety of tools for data collection especially based on demographic groupings. These are photo elicitation with the children and youths, oral history with the elders, interviews with adults and transect walks with the researcher in order to view the landscapes through the eyes of the participants.

The first part of the chapter presented the data theories guiding the conduct of the research and in the second part presented the conduct of the fieldwork. The next chapter analyses the community without oil and gas exploration activities.

6 Chapter 6. IBENO: Community with Oil and Gas Exploration

6.1 General introduction to the analysis

This research employs an inductive approach to the analysis. It implies a relationship where theory is generated from the research data (Bryman, 2008). Notwithstanding the limitations imposed by safety and time because the case study Region is considered a 'conflict zone', the researcher has extensively used tools and outcomes from grounded theory during the data collection, and for analysis. Hence, there is some interplay concerning data collection, initial coding and theoretical sampling, as explained in the methodology in Chapter 5 as well as the outcomes illustrated in the Figure 6.1.

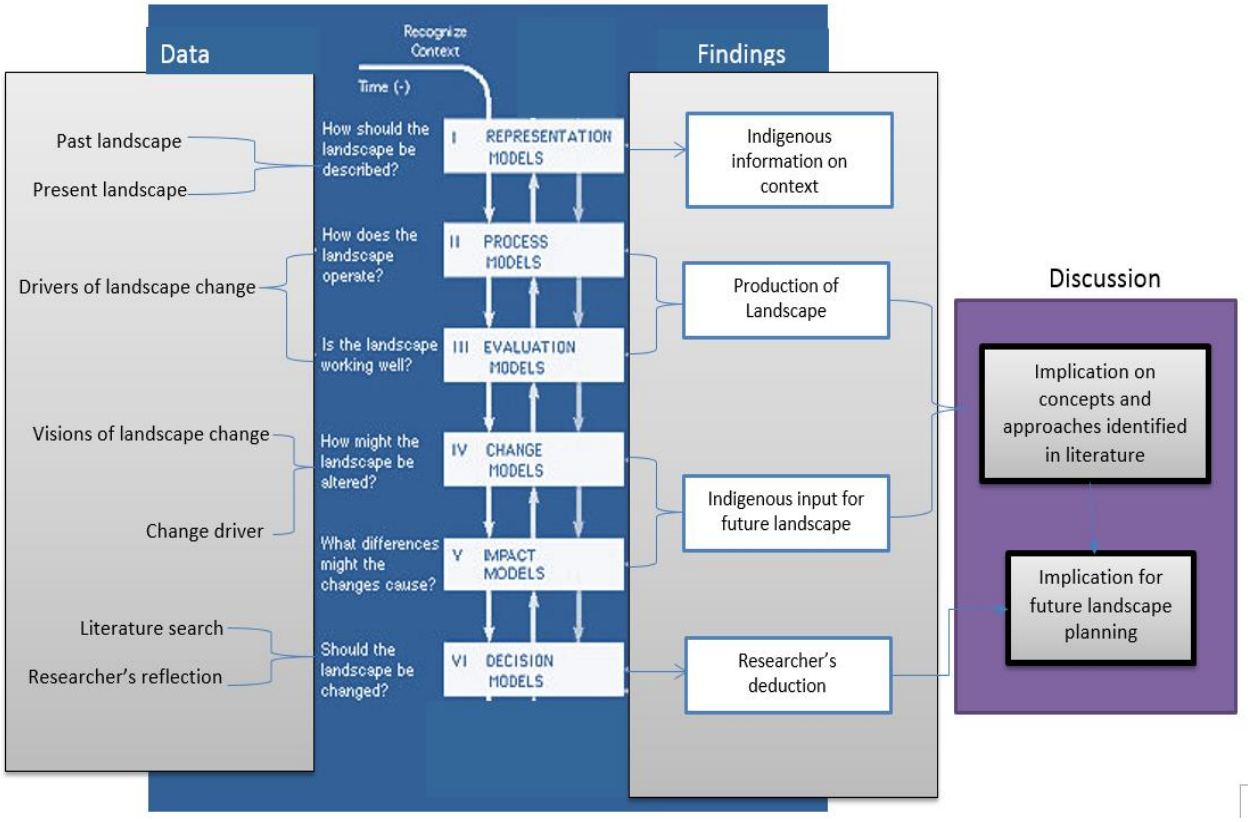

FIGURE 6.1: ADAPTED FRAMEWORK MODEL SHOWING PROCESS AND OUTCOMES FOR THE ANALYSIS

6.2 Strategy for the analysis

The Figure 6.1 provides a general outline of the conduct of the analysis. It shows the combination of the tools from grounded theory with those of thematic analysis. The contents of the blue coloured box are the imposed themes from literature taken to the fieldwork (formative theories), a process known as 'coding down' (Silvey, 1975). The themes taken into the fieldwork are a series of questions guided by the Framework Model (Steinitz, 1990a; 1995; 2012), as explained in Chapter 2. The two grey coloured boxes on the diagram provide the themes generated from the data in a process called 'coding up' (Silvey, 1975). One grey box identifies the themes answering the fieldwork questions and the other the findings from the data. The themes that emerge from the findings provide the study with background information and an understanding of the drivers of landscape change, the processes leading to the present landscapes, as well as change drivers that will inform future landscape change. The discussion box in purple colour shows the implications of the findings to the approaches and concepts for sustainable landscapes. It also reflects on the implication for future landscape planning for the Region. The results presented in these two analysis chapters 6 and 7, are written under the headings of the first four themes of Representation, Process, Evaluation and Change Models (presented in the blue box). The last two themes of Impact and Decision Models guide the discussions in chapters 8 and 9 (purple box).

The unit of analysis is the community. Data is generated from the two types of communities identified around the onshore and offshore oil exploration activities' sites. In Chapter 6, the results and analysis of data relating to the community with oil and gas exploration activity is presented, while Chapter 7 presents that of the community without the presence of the oil and gas exploration activity.

The aims of the empirical research questions that guided the fieldwork are:

a. To gain an understanding of the landscapes through an insight into its past and present landscapes (achieved through the imposed themes taken from the Framework Model
b. To identify visions and drivers for future landscape change from the community (extracted from themes emerging from the data)
c. To discuss the implication of the change drivers that emerge for future landscape planning concerning the Regions (In Chapter 8)

The responses from Theme 1 describe the community's landscape ***representation*** with regard to the past and the present. The study was undertaken by an outsider-insider, who found this approach informative in understanding the context from the indigenes that lived on and worked the land. The data from the transect walk and responses to the second theme give an understanding of the ***processes*** within the landscape and further explain how the landscape works. The third theme involves an ***evaluation*** of the landscape from and with the indigenes. The representation, process and evaluation of the landscape provide an understanding of the fourth theme, which is that of the ***change*** suggested to inform future landscapes. The themes arising from the ***change*** model therefore inform the change drivers and visions in relation to the future landscapes of the community.

As sustainable development is also a guide to the physical planning of the Region, the change drivers for the future landscape form the discussion on concepts and approaches to sustainable landscapes and thereafter, its implication for landscape planning in the Region.

6.3 Oil and gas exploration community

Ibeno is the only local government area in the study area with offshore oil and gas exploration activity (Chapter 4). The tools for data collection, as already explained in the methodology (Chapter 5) are semi-structured interviews - conducted along demographic groupings - focus group discussions, photo elicitation with youths and children and transect walks around community landscapes.

The letter 'B' has been selected by the researcher as a code for this community with oil and gas exploration activity, for the purpose of differentiating the two case study communities at this analysis stage. For this reason, Ibeno will be known as community B in the analysis. The letter B has a further function as reflected in the anonymised coded names for the respondents from the Ibeno community.

6.4 Background of the participants

In the analysis of the data, the adult respondents are coded according to gender. The sample categorisation has been explained in the Methodology chapter. Consequently, males and females are represented by M or F respectively, while youths[20] and children are represented by the letters Y.

TABLE 6.1 CHARACTERISTICS OF RESPONDENTS BY COMMUNITY TYPE

	Male **M**	Female **F**	Youth **Y**	Children **C**
Community B	Over 28 years	Over 28 years	16- 28 years	Below 16 years
Community of Place (**p)**	Tied to a physical space through geography Indigenes resident and work in location Possess both indigenous and experiential knowledge			
Community of identity (**i)**	Tied to each other through social characteristics that may transcend place Indigenes with strong ties to location and have exposure (education, travels, employment elsewhere nationally or internationally) but are not necessarily resident or working on location Possess experiential, expert and indigenous knowledge			Indigenes but not necessarily be resident or schooling at the location
Community of interest (**c**) sometimes known as community of practice	May have commonalities in how they relate to a place, but may be geographically situated outside the place or maybe non-natives but work and reside on location Possess Experiential and Expert knowledge			Non-natives but parents work and reside at the location

Source: Adapted from Tress and Tress (2001) ; Tress *et al.* (2006c) (Roe, 2012c)

[20] Though the United Nations for statistical consistency has defined youth from ages 15-24 years, it also agreed that the period of compulsory education and when one attains independency through employment might be longer in some instances and hence would be criteria for definition as well. Therefore as youth in this Region are exposed to prolong dependency due to unemployment the upper limit of the ages extends to 28years on the average. Many youths of this age were found in the Region still dependent on their parents even after the completion of the compulsory education.
(*What do we mean by "youth"?* Available at: http://www.unesco.org/new/en/social-and-human-sciences/themes/youth/youth-definition/ (Accessed: 18th August 2014).

The letter ‘p’ identifies the respondents as belonging to the community of place, and ‘i’ the community of identity, whereas ‘c’ represents the community of interest. Table 6.1 summarises the characteristics of respondents by community type as described in the literature (Tress and Tress, 2001; Tress *et al.*, 2006c; Roe, 2012b).

The identification of whether a respondent is either from a community of place, identity or interest is inserted in the coded name to provide further insight into the probable reasons behind the responses, as each community type possesses a characteristic (Roe, 2007c; Roe, 2012b) that might have influenced the response. Figures 1, 2, 3 etcetera, on the coded names represent the first, second or third participant or groups of participants interviewed under each gender or group type. The coding for all the participants interviewed in community B is depicted in Table 6.2

TABLE 6.2 CODE FOR PARTICIPANTS

	Males	**Females**	**Youth and Children**	**Community B**
Semi-structured Interviews	M1Bi M2Bc M34Bp	F1Bi F2Bp F3Bi F4Bp WIDOW	Y1Bp Y2Bc	
Focus Groups and Focus groups for access	M5-22Bpi	F5-7Bp	Y3-5Bp	
Photo elicitation			Y6Bp Y7Bp	
Transect walks				3nr transect walks in the Ibeno community
Total	4 (22 with focus group)	5 (7 with focus group)	4 (7 with focus group)	3 in Ibeno local government

6.5 Results from themes used in the fieldwork

The data gathered from the themes of representation, process, evaluation and change models from the fieldwork on Ibeno community 'B' are presented in details in the following sections 6.6 to 6.9 accordingly.

6.6 Theme 1: Landscape Representation

The principal aim of theme 1 is to understand the way people perceive and thus, describe their landscape. Responses are solicited for the description of the past and subsequently the present landscapes. This includes its present condition and development over time.

The response to the landscape representation is told in a mesh of narratives sometimes hidden and requiring decoding as issues are expressed. The issues raised during the narratives initially feel irrelevant to the landscape context but on careful examination the links with the landscape become obvious**.** Therefore, illustrating what Crouch (1990) indicates regarding landmarks being no longer geographical, but biographical and personal, as they constitute a setting for the lives of the inhabitants and therefore, can sometimes be "*a curtain behind which their struggles, achievements and accidents take place*" (p. 14).

The findings from the analysis of the data demonstrate that the responses took two forms to describe the landscapes. They are predominantly:

a) In the form of stories and narratives with the physical setting intertwined in the narratives occasionally.
b) In the comparison of past and present landscape.

These two findings are illustrated further under 6.61 and 6.6.2 below.

6.6.1 Forms of Responses to Landscape Representation

a) Stories and Narratives from the adult groups

The responses to this theme from the adult community groups are presented in the form of stories and narratives recollected from the past, explaining the meaning the landscape had for them. Additionally, the participants demonstrate clearly in their responses that the landscape is not always necessarily represented in physical terms. Selman (2008) also observes that landscapes in community settings tend

to be described in associative terms related to friendship, kinship and employment. For example, the response below was how the participant began the representation of the landscape;

> "*I was born in Cameroun and that was where I was married. We only came down when my parents got so old".* (F3Bi)

The participant was female and of the community of identity category. She first recalled her place in history, from her birthplace to where she got married, prior to talking about the landscape of the past. She then introduced a little bit of the physical setting of the past and continued with the narrations of the struggles associated with that physical setting and how the challenge was overcome.

> *"This was a village without roads anywhere. My father said he built his house in 1925 and when we asked him how he moved the materials for building, he said he had to sail the seas. The Bible Church Mission started here at the other side of Ibeno, which is from where it spread to other places." (F3Bi)*

She further recalled how difficult it was then for her father to build his house because he had to move the building materials across the river. In deconstructing indigenous methodologies, Hunt (2014) explores indigenous ontologies and expresses "*how stories and storytelling are widely acknowledged as culturally nuanced ways of knowing, produced within networks of relational meaning-making"* (p. 27).

From the onset, the participant's narration introduces the presence of water as part of the landscape and begins to identify several of its prospects and challenges.

The river, being part of the landscape is also in line with the local indigenes way of not distinguishing between waterscape and landscape, as both were considered culturally constructed (McDonald *et al.*, 2008, p. 64). The narratives also concur with Wylie (2007) in presenting the tension embedded in landscapes with the question of whether landscape was the world we were living in or a scene we were looking at from afar.

The landscape representation of the youths and children is not in the form of stories and narratives. They indicate that they had not experienced, only heard of how the past landscape was. Y2Bc was a youth leader whose parents were in-migrants.

He was not able to talk about the past landscape because as he said, he "*Only grew up in the present*" and hence, only heard of past landscapes in stories related by adults. This opinion resonates with the youths throughout the data when asked about the past landscape. The impression of the good landscape of the past is repeatedly heard of as stories from the elders related to how they engaged peacefully and productively with it and consequently, is only an imaginary for them. The imagery, of what the good landscape of the past must have been like and the projection of what that of the future should be, also comes from 'good' landscapes elsewhere, such as seen in films, photographs, the internet, travels and books.

The representation of this landscape from the community, as shown by the response from F3Bi and the youth and children's leader, Y2Bc above, and as will be revealed throughout the data is frequently in the "*embeddedness and interconnectivity of self, body, knowledge, and land*" (Wylie, 2007, p. 1). This reinforces the view of landscape not only as what we see, but also as the world we live in; thus, introducing a socio-cultural dimension to its understanding.

b) Physical setting

There were numerous narratives and stories related to the respondents' description of the landscape of the past that helped to give the study a glimpse of what it must have been like and how the people had lived. A community leader and elder stated that landscape to them was more than just land. It spanned from oil (the natural resource) to the water (rivers, creeks, sea) to their farms and what it contained. He expanded the meaning to cover their traditional occupations of farming and fishing; therefore, introducing both the tangible and the intangible aspects of landscape in his definition. Therefore, it can be deduced that their story is the story of the landscape as also explained by Roe (2012c), who explains that landscape has both its "seen" and "unseen", where the latter had to do with lost memories and associations and impaired functionality, whereas the former had to do with land cover and land use.

> *"When you talk about land, it covers a lot – from oil to water, to farms and everything there. In our own case, we are farmers and fishermen, but the oil spills have threatened our lands and our streams. Also, this is the first time anyone has come to ask us how these things affect us". (M5-22Bpi)*

The landscapes in the responses were therefore occasionally expressed in terms of the "seen" and the physical changes that had taken place in them.

> "*The expanse of our land was great, compared to what we have today. All the vessels which brought their goods this way berthed here, about 80 vessels at a time... But as the wave chopped in, it ate off all our lands. So far, they have not been able to restore the lost land. This began happening shortly after their arrival. With that, if the rain falls, the top soil gets washed off – and you know our soil here is the sandy type, easily washed out. The land here has gone below sea level. During high tide, the land is covered by water, because it is swampy. I consider that a serious land degradation". (M1Bi)*

M1Bi is a community leader who exhibits immense knowledge both locally and nationally. He describes how the activities from the oil exploration, such as the berthing of the vessels bringing goods had gradually reduced the large area of land through soil erosion. The rains too, by the gradual washing away of the topsoil had lowered the land below sea level resulting in land degradation and high tides covering the land.

The youths and children in their own photo elicitation interviews articulate more about the physical landscape, describing its aesthetic aspect or lack of it, its safety and security, its landmarks, and furthermore, about the flora and fauna by the use of photographs. They showed photographs of landscapes they liked; most were of the environmental aesthetic, as much as of the recreation and leisure (Figure 6.2).

FIGURE 6.2: RECREATION AT IBENO BEACH

Source: Fieldwork 2013

FIGURE 6.3: LEISURE, RECREATION AND LIVELIHOOD IN IBENO

(Above) Sunday at Ibeno beach
(Bottom) At Ibeno awaiting the return of the fishermen
Source: Fieldwork 2013

In the narrations, the vast nuances that the term landscape connotes (Spirn, 1998), emerge representing it along a broad spectrum from scenery to stories (Figure 6.3). This concurs with Selman (2012a), who notes that it is "*a visual and painterly view at one end…to a more inhabited concept of landscape at the other, where people, land and history combine to create a sense of belonging associated with a mappable Region*" (p. 1)

6.6.2 The description of past and present landscapes

Two predominant themes materialise from the data describing the past and present landscapes. The landscape of the past is perceived as productive and tranquil, while that of the present is seen as fragmented/disconnected and degraded. Both landscapes are presented in detail below.

a) Productive and tranquil rural setting of the past

The data demonstrates homogeneity amongst the demographic groupings in their description of the landscape of the past as productive and tranquil. They frequently did this by contrasting it with the polluted landscape of the present. According to Baral *et al.* (2013, p. 961) production landscapes are those "*that provide food, fibre and energy* [that people need and furthermore] *benefit society by providing services that were not currently bought and sold in the market place* [and again support] *ecosystem services such as water regulation"*, wildlife habitat and associated biodiversity value.

As a productive landscape, the adult groups remember the landscape of the past with value in providing a sense of place, embedded economy, functional ecological networks and healthier lives (Selman, 2012a).

> *"My great-grandmother would take me across the water, to the place where we had a farm". (M4Bp)*

M1Bi describes the landscape in general as a treasure that meant a considerable amount to him providing functions of food, healthy living and recreation.

> *"The landscape means a lot to me, because if I plant something and the top soil is bad, I cannot feed my family. This same top soil, if it is in bad condition, can be a danger to the children who play on it…" (M1Bi)*

In addition, his response below further compares the production functions offered by the landscape of the present with that of the past and indicates how the ecosystem services have been lost to oil and gas exploration activities.

> *"…the soil is polluted, and we go to fetch water from our source, we will take in contaminated water. The sand has become very itchy, as against former times, because of the gas and chemical content". (M1Bi)*

The landscape of 'former times' refers to the past landscapes, which were functional ecological networks with pure sand that the children could play on and of clean water that was free from contamination and pollutants. The land had topsoil that was rich and provided a livelihood.

Another response from a female politician corroborated this. She said that although the physical land was not much in terms of land area and the Region was swampy, it was greatly valued for its source of food and landscape services to the people

> "*We lived in a swampy area, so the small parcel of land we have, we always treasured*…." (B1Fi)

The data reveals how this waterscape/landscape was seen to provide a source of food and landscape services for the people and a sustained means of living by means of fishing and related activities that the entire community engaged in. M4Bp explained the role played by each demographic group in the landscape. Men were fishermen, while the women dried fish and also tended small farms wherever there was land, which was usually across the creeks. The youth and children also played their role as explained here.

> "*I was born to see this place as a fishing port. Our forefathers were fishers. When they returned, the women would dry the fish. The youth do the management and accounting. The children help the fishermen to offload and sort the fish". (M4Bp)*

The data illustrates a generation of people making their living through engagement with the sea. Moreover, each gender in the demographic grouping has a role in making a livelihood that will sustain society.

The tranquil past landscape afforded the community a place to engage in social activities. F5Bp demonstrates how there was a social life after the fishing business and the community engaged in cultural dances outdoors on different occasions.

> *"The social life back then was that when they returned from fishing, they would get outside, get drums, dance and sing. They used to have cultural displays. During the Christmas period, they would tie us with wrappers of different colours and we would go dancing from house to house; those who were impressed appreciated us with money or whatever they desired "*. (F5Bp)

Therefore, landscape of the past was portrayed not only in its physical form but also in its symbolic messages. Thus, representing a sense of place where *'behaviour, interactions and social networks were structured'* (Clark, 2012b). This sense of place is exhibited in the cultural displays and traditional attires and visits undertaken during Christmas. This has been acknowledged by Stedman (2003) on the social construction of sense of place and moreover, how shared behaviour and cultural process produce place meanings and attachment providing beneficial services to society, which cannot be commodified.

The response by F5Bp signifies that on returning from fishing these social activities took place outdoors, highlighting "*that cultural identity had a strong association with the ways in which people interact with their landscapes*" (Stephenson, 2008, p. 127). This case, also supports the opinion that the physical environment makes an important contribution to place meanings and attachment, which according to Stedman (2003) is often neglected in the research.

The community landscape of the past was also perceived as a rural setting within a traditional landscape layout. A response from a female, F3Bi remembered the peace, unity and quiet, in addition to the rural nature.

> *"Then there was peace and quiet, as well as unity. Now, the land dissension has caused so much trouble…" (F3Bi)*

A symbolic message summarising tranquillity through the presence of power, control and ownership in the physical setting was displayed in most of the responses. The valued physical qualities of the landscape were frequently referred to, agreeing with Stephenson (2008). Much of the detail as to why parts of the

landscape referred to by the adult participants had little directly to do with environmental aesthetics. The responses given by the adults tended to notice the landscape more in its functional capacity and in its potential for provision of landscape services. The researcher initially thought that it could possibly be explained by Maslow's hierarchy of needs (Maslow, 1943). Might the degraded landscape, poverty and loss of livelihood make environmental aesthetics a hidden priority when the adults discuss the landscapes? Maslow (1970) himself changed his 5-stage model to a 7-stage model to include cognitive aesthetic needs and transcendence needs in recognition of the importance of these additional factors in people's needs (Maslow *et al.*, 1970).

FIGURE 6.4: SUNSET AT IBENO RIVER

Source: Photo elicitation Picture by Y2Bp

The indifference to aesthetics is not exhibited by the youths and children groups. The group took photographs and discussed water in a sense that transcended its potential as a vital natural resource to be managed and thus, reaffirmed Toussaint (2008) in his contemplation of the water/human relation, where he presented water as being *"about social life, cultural politics and material struggles*…."(p. 46). The

data from the photo elicitation shows more consideration of environmental aesthetics by the youths and children groups. Y7Bp, a female aged 17 brought photographs of the Ibeno River (Figure 6.4), as her favourite place because of the spectacular scenery at sunset and also because children swim in it. Thus, the river serves a recreation and aesthetic function, as well as a means of livelihood. She said:

> *"This Picture… is a riverine area in Ibeno. It is the Ibeno River and it flows into the ocean. Children swim in the water as the fishermen do their fishing. The feeling is nice and the environment is neat". (Y7Bp)*

This endorses Zube *et al.* (1983) in that awareness of the scenic beauty of water is presented as being more enhanced in children and of minor importance to adults compared to other concerns. The child participants intentionally took photographs of a number of landscapes solely due to their attraction to the environmental aesthetics and for fun. An example is the sunset over the Ibeno River photographed by Y2Bp:

> *"This other picture…captures the sunset. The colour spectrum as the sun sets is the beauty of it". (Y2Bp)*

The aesthetic appeal and beauty of the sun setting, including the colour spectrum captured by the young person, is also reflected in findings regarding the children's perception of river landscapes. It indicates important differences in the needs, aspirations and behaviour of children in contrast to the adults, as the environment is interpreted and seen in more detailed and more personalised ways by the children (Tunstall et al., 2004). This may be because of the different ways children interact with the water landscape.

b) Present Landscape of disconnection and degradation

Each participant had a considerable amount to say concerning the present landscape. Representation of the present landscape is in contrast to the distinctive productive and tranquil landscape of the past, stated above. It is observed as a landscape of disconnection represented by fragmentation and degradation. Fragmentation is a spatial problem, defined as 'breaking into parcels or fragments

of land types and habitats, thereby spatially segregating and preventing entities meant to belong together to function optimally' (Carsjens and van Lier, 2002; Hidding and Teunissen, 2002; Jongman, 2002). This has produced a landscape of alienation from the indigenes' cultural values.

The participants claim that the present landscape with the oil and gas exploration is predominantly poor in its performance with respect to the provision of landscape functions and services. The data demonstrates homogeneity across all demographic groupings in these descriptions of the landscape representation of the present. Six headings summarise the findings extracted from the data on the description of the present landscape from all the demographic groupings. These are:

i. Oil spills, gas flaring and general environmental degradation, as a consequence of the uncontrolled activities of *Mobil Producing Nigeria* (henceforth Mobil), which is conducting oil and gas exploration activities in the area.

The Y2Bc youth moans about how the oil spills have changed the environment and made the indigenes unable to cope with the landscape changes caused by the damage. Consequently, they cannot adapt to new ways of making a livelihood on it and as a result have lost their livelihood.

> "*Oil spills have caused changes and most of the indigenes have lost their means of livelihood*". (Y2Bc)

M1Bi presents both the direct and indirect effects of oil and gas exploration on the landscape, such as the erosion caused when rain falls, after heavy duty vehicles belonging to Mobil, the exploration company had driven "*on bare ground, on soil that is sandy"*. M1Bi commented on the landscape degradation because the "*land is presently below sea level and hence gets submerged with high tides"* and also mentions the acid rains, health hazards and loss of food sources.

ii. Loss of means of livelihood due to population change, as result of the influx of in-migrants and immigrants, who had the finances and skills to fish under the present condition

"Loss of Livelihood to in-migrants who possess better skills and finance for the kind of fishing required as a result of the damaged landscape". (M1Bi)

iii. Loss of indigenes' land as a consequence of selling it to the in-migrants

iv. Lack of physical planning, development control and landscape management

Additionally, a number of participants point to the non-presence of physical planning and regulatory authorities as contributing to the degradation and fragmentation of the landscape.

> *"All land lost to vessels that berth bringing materials and goods for Mobil".* (M1Bi)
>
> *"Now, the water is threatening to take the land. The water has encroached so much, so that some portions of the embankment are breaking". (Y1Bp)*
>
> *"Structures erected by migrant fishermen within the main community are the ones that are responsible for the dirtiness. If our chiefs are honest, they would have given them somewhere close to the rivers or somewhere far from town". (F1Bi)*

The diminishing land under water encroachment and the spatial discontinuity as a result of the haphazard erection of structures within the traditional community landscape layout are causes of fragmentation, as they lead to barriers and a decrease in landscape elements (Jongman, 2002).

v. Alienation caused by changes in environmental values from the in-migrants.

Jongman (2002) identifies one of the spatial effects of fragmentation as a reduction in the functional area and isolation of landscape fragments with sub populations. This leads to source-sink-relationships in natural populations. These consequences are also visible in the present cultural landscape in Ibeno. Participants observed that the influx of in-migrants has had an effect on the functions of the landscape. Where waters have not been polluted by oil spills, they have been contaminated by the indiscriminate use and dumping of refuse by the immigrants. Therefore, Ibeno has presently lost one of its identities as an organised community. The participants said;

"It was not so before. I think it is due to the population. People have migrated from other areas into these places. But if our chiefs are sincere, they should be the ones re-awakening the people to the principles of neatness". (F1Bi)

The explanation of Jongman (2002) pertaining to the "decrease of the functional area of the habitat and isolation increasing the chance of local extinction of population and diminishing the chance of spontaneous return" (p. 215) has been endorsed by the data of this research. The responses further recognised the other negative impacts of fragmentation and consequently, the continuous complaints regarding the leaders' indifference to the distortions of the landscape.

vi. Loss of cultural values and social unrest

The present landscape of disconnection has both landscape-ecological and socio-cultural consequence, manifested in frequent social unrest in the Region. The socio-economic functions related to the future dynamics of a society, the ecological processes that constitute a precondition for the cultural landscape, the genius loci, related aesthetics and long term educational objective within the Region are all being affected.

"They should construct roads here and employ our young men, so that they cannot continue to make trouble for anyone or the management of Mobil. Some are teaching in the primary school, but that is not enough" (F3Bi)

The community was connected to the river in the past and played a significant role. However, the river now lies abandoned and lies fallow (Figure 6.5), while sad tones to the lost past values are recorded in peoples' comments.

"There used to be rivers where our women used to go get their fishes and crayfish, but all those places have been abandoned. They now lie fallow". (M1Bi)

"Rain falls and mingled with gas flaring populating the water and causing health hazards". (M1Bi)

FIGURE 6.5: ABANDONED RIVER LYING FALLOW

Source: Photo elicitation picture (*Y7Bp)*

vii. Summary of the theme on landscape representation

The response to the representation of the landscape was concerned with both the past and present. The findings suggest that information concerning the landscape is predominantly told through

a. Stories and narratives by the adults in a biographic way with the participants explaining their histories within a particular location
b. Through the valued physical quality of the landscape.

There are six headings related to findings concerning the present landscape. These suggest it as degraded and impacting negatively on all spheres of the people's lives. These are:

1. Oil spills and general environmental degradation
2. Loss of means of livelihood due to population change
3. Loss of indigenes' land

4. Lack of physical planning, development control and landscape management
5. Alienation caused by changes in environmental values
6. Loss of cultural values and social unrest

The past landscape is remembered for its productive services and how it improved living standards. Thus, this background information clarifies and enables some understanding of how the landscape may possibly be read; nevertheless, "*to those who can read the landscape it poses many questions*" (Spirn, 2005, p. 396) on how it came to be and the process of its evolution. These are explored in the following theme.

6.7 Theme 2: Process Model

The second theme directs the understanding of the processes which produce the landscape. It has become necessary to understand these underlying developments because planners;

> *"too often concentrate on narrowly defined problems and fail to see the connections among seemingly unrelated phenomena…focusing on physical form and failing to account for the process that will continue to shape their project over time" (Spirn, 2005, p. 396).*

The principal aim of the questions under this theme is to establish how the landscape operates.

> *How did it come to be, how did it evolve, through what processes and actions, when and which of its features have had a sustained impact* (Spirn, 2005, pp. 396 - 397)

The questions sought after the relationships between its functional and structural elements and how the landscape processes can be explained or shown (Steinitz, 1990b).

The findings elucidate:

- The differing perspectives on issues to do with the landscape by the demographic groups as well as

- The emerging drivers of landscape change. Both findings are explained in detail below.

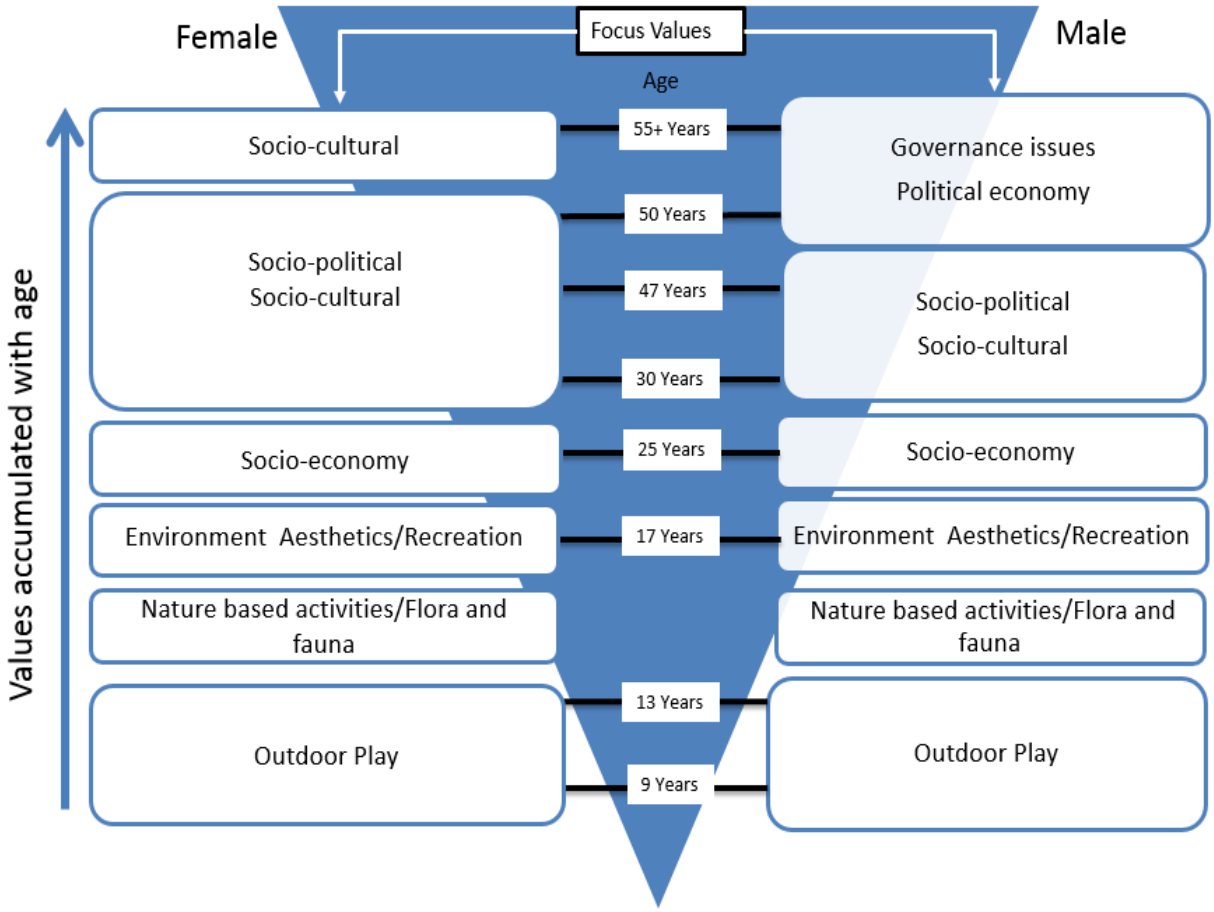

FIGURE 6.6: FOCUS ISSUES AND ACCUMULATED VALUES ON LANDSCAPE WITH AGE

6.7.1 Landscape Stories: The differing landscape perspectives of the different demographic groupings

Figure 6.6 illustrates the first of the two major findings from the data of the landscape Process Model. It demonstrates the main issues in focus derived from responses to the Model's questions. The blue inverted triangle represents increase in age as well as indicating that values accumulate with the increase in age. Each set of white boxes to the side of the triangle represent focus values for the female and male genders respectively. A dialogue box by age shows the principal values of focus for that age.

The findings from the responses of these demographic and generation groupings vary. They explain both the spatial and temporal in a complex relationship that provides reasons for the present visible landscape degradation. The data illustrates how the processes within the landscape are however not viewed from the same perspective but different perspectives by different demographic groups and also generations.

The male groups explain it from the political and livelihood perspective, whereas the women describe it from the environment and cultural perspective. Additionally, the young people and children explain the processes by means of the effect on employment, recreation and aesthetics. The researcher deduces that the processes are explained from a perspective that is of most significance to the participants' gender and age.

These perspectives as presented in Figure 6.6 can be explained in details through:

a) Relationship between oil and gas exploration activities and loss of livelihood

The men use the oil and gas exploration activity to describe how the landscape operates at present and furthermore, its impact on socio-culture and the economy. It has resulted in the loss of livelihood because they lack the new skills and finance to engage in a fishing environment that has changed and is different.

> *"Fishing has always been our livelihood source. Mobil contaminated the river and the fish moved into the deep sea and it now cost a lot to fuel our boats to go to the deep sea. Most times fishermen cannot offset the cost of fuel and talk less of making a profit." (F1Bi)*

The landscape in the past was productive supporting livelihoods, as previously explained, the community engaged in fishing and fishing related activities prior to the commencement of oil and gas exploration in the Region in 1976. However, with 2,748,308 barrels of oil spilt in 8879 incidents in the Region, from exploration activities, as of 2006 (Ajakaiye, 2008), the rivers were contaminated and the fish moved out into deeper waters. Fishing therefore required different techniques and hence, became an expensive venture, as the fishermen needed different types of boats (Figure 6.7), in addition to finance for fuel for their boats to make it out into the sea. In reality, that was too expensive and could not be offset by their hauls.

FIGURE 6.7: IMMIGRANTS' BOATS IN IBENO

Source: Fieldwork 2013

This then led to the decline or total abandonment of fishing by the indigenes. Nowadays, it is almost non-existent or very unprofitable.

b) Effect of Politics on oil spills in the Landscape

The male group lament the indigenes inability to swim in the rivers anymore because of the presence of oil films, while they are also unable to wrestle on the sand as it is polluted and causes itching, which is harmful to the body. Furthermore, the pollution has also affected the ability of the ecosystem to regenerate.

> *"As a riverine people, we swam for sport. Today, you can't swim in water with films of oil in it. The people used to wrestle with one another to the joyous cries of spectators in the village square…Only nature can bring back all that. No president or drive can do that. Whatever they do, it will be difficult, unless politics of privilege is taken away". (M1Bi)*

The community therefore cannot perform the usual communal social activities and has consequently lost its social and cultural heritage, which gave them a sense of attachment and therefore, a sense of place. The damage to the ecosystem was such that the community felt so hopeless and believed that only nature could correct the damage. Additionally, they have lost confidence in the political will-power to correct and effect the required remediation.

c) Indigenes' sales of land and its effect on culture, livelihood and environment

The data from the women's group focuses primarily on the effect of loss of livelihood on the culture of the community. It demonstrates that the lack of new

skills required to fish in the high seas encouraged the influx of immigrants from neighbouring Ghana and the in-migrants - the *Elaja* from Lagos, a neighbouring coastal city - both were better equipped because they possess modern fishing equipment and also have the finance to buy the necessary trawlers and thus, to fish under current conditions.

The data also reveals homogeneity in responses from the female participants on their emphasis on the differences in cultural values between them and the in-migrants, and moreover, how these have translated into the fragmentation of the landscape by sales of their land to the in-migrants and the in-migrants using it as they desire.

> *"Before our environment was not like this, there was fresh air in the villages but now the environment is so hot. This is because of the increase in population. There is an increase in visiting fishermen who buy our land and build on it anyhow. You cannot dictate what they should build because you have already sold the land". (F1Bi)*

The indigenes are presented as so poor and helpless that they have to sell their land or risk it being sold.

d) Spatial fragmentation and discontentment with leadership

The non-availability of land coupled with the in-migrants behaving as they wish on the land has brought about an environment that has become alien to the indigenes. The women's group expressed dissatisfaction with the leadership accusing them of corruption and greed. A waterside woman aptly illustrated this in Figure 6.9. Structures have been erected by the in-migrants on locations where the indigenes would dare not erect on and as a result, the women's group have expressed their displeasure with the local leadership for allowing this trend to occur:

> *"But our chiefs, our elders and others (maybe because they need the money) have sold off the main parcels of land, even some ancestral land to companies. Why don't they sell the swampy area, so that the companies can take care of that? This is because the companies can afford to fill the land, but locals cannot; the cost is huge. The chiefs even snatch away ancestral lands: If you have a parcel of land you inherited from your father and you are waiting for your sons to come build on it, the chiefs will come and snatch it away, claiming that it is being wasted. Funny enough, they sell it off or you do so, just to get their eyes off it". (F1Bi)*

Furthermore, the good parcels of land were said to be sold to companies. The data indicates how the women participants would have preferred the swampy lands to be sold to the companies, as they possessed the capacity to develop it. Instead the companies were given the main parcels of land and the in-migrants fishermen were sold the swamps. The in-migrants put up their structures anyhow and hence, tampered with the natural drainage and made the environment dirty. F1Bi lamented:

> *"Our culture is different to theirs, we are very clean people and never built on swamps but they are different. They say they can build anywhere. They fill up swampy areas and build. They buy our land and build."(F1Bi)*

During the photo elicitation interview with the young people and children, Y6Bc, a male aged 11 from the community of interest also notes the impact of the in-migrants. He presented two pictures from their landscapes as representing places he did not like because they are not kept clean and which he would like to have changed.

Y6Bp explaining his photographs during the photo-elicitation interview:

> *"This is the Qua River, where people dry their clothes and live. People are making the water unclean, by throwing things into it, bathing and using the water. Before then, some other people (young and old) used to drink and take their baths there, but they do not come anymore, because it is polluted." (Y6Bp)*

The transect walk confirms the issues in the photos taken earlier by a number of youths concerning the in-migrants neighbourhood (Figure 6.8). This has further reinforced the female participants' claim concerning the in-migrants negative impact on the landscape. It is worth noting that the data from the youths mention that the environment was not like that in the past.

FIGURE 6.8: IN-MIGRANTS' NEIGHBOURHOODS

(Above) Photo-elicitation photographs of a neighbourhood belonging to in-migrants (by the Y6Bp)
(Middle) Photos of an untidy in-migrants neighbourhood (by researcher)
(Bottom) Researcher's photos of in-migrants quarters
Source: Fieldwork 2013

e) Effect of oil and gas exploration activities on the youth

The findings from the data obtained from the youths and the children's group pertaining to this theme, reveal how the landscape predominantly operates from

the angle of employment regarding the older youths. In contrast, the younger groups are concerned with how they are physically and visually engaged with the landscape through recreation, as well as their role in the fishing business. The older youths predominantly talk about unavailable employment, grumbling about their unemployment and expressing their frustrations, while the younger youths and children speak of reduced recreation opportunities, scenery and safety.

The older youth Y2Bc explains the role of the groups of young people and children in the fishing trade as thus;

> *"The men do the fishing and bring it to shore, the youth do the management and accounting. The children help the fishermen to offload and sort the fish and are paid or given the smaller fish to sell. The fishermen then sell the fish to the women on the riverside. Women who cannot afford cash can collect on credit to sell and pay after." (Y2Bc)*

FIGURE 6.9: THE 'WATERSIDE' WOMEN

(Above) Waterside woman complaining of being neglected by those with "big eyes and wide arms" [sic] referring to the leadership
(Below) Waiting for the fishermen to return
Source: Fieldwork 2013

The findings from the responses to this theme illustrate the complex relationship between factors that determine how the landscape evolved and furthermore, demonstrate that the rivers were the main features that had a sustained impact on all the other relationships occurring within the landscape.

f) Lack of development despite the presence of Oil and Gas Activities

The data clarify that people that bring development to the community are welcomed so long as they do not take away the indigenes' livelihood. The women's group was particularly interested in Mobil employees and support them as they do not pose any visible threat to the community's livelihood. Nevertheless, the data explain that oil and gas exploration has not brought development to the area. The Mobil workers are brought to work daily from outside the community; hence, they make no contribution to its physical development.

> *"If you stand by the road, you will see buses bringing people from Eket to work here; why can't they bring them here to live and develop this place." (F5-7Bp)*

g) General summary of the second theme on processes within the landscape

In conclusion, the general findings from the responses suggest distortion to the traditional community layout and management, and each demographic group using a different perspective, signifying undesirable physical changes in the present community layout triggered by how the present landscape operates. The findings from the responses together with the transect walks and drives indicate how the present landscape is being created. The production of the present landscape emerges through the drivers of landscape change listed below.

6.7.2 Emerging drivers of landscape change

The findings therefore suggest how the landscape has evolved and operated. The drivers of landscape change are found embedded in the summary below:

1. Loss of livelihood to oil and gas exploration activities
2. Increase in population. The locals call the in-migrants 'visitors'
3. Sales of land by both leadership and locals to visitors because of poverty
4. Differences in cultural values, lost cultural heritage and traditional layouts of communities

5. Landscape fragmentation due to the indiscriminate erection of structures by visitors
6. Non-availability of land

6.8 Theme 3: Evaluation model

The third theme is the evaluation of the landscape. The aim is to:

- Evaluate the current landscape with the community and also by means of the researcher's transect walks and observational drives, in order to establish whether the landscape is functioning well; and
- Identify any dysfunctions and deduce explanations where possible.

The responses show loss of landscape services and a vicious cycle of decline. This further strengthens the data relating to the drivers of landscape change that emerged earlier from the responses to the Process Model. The lead question here is whether the landscape is functioning well. The findings address the aim of the evaluation Model and are presented in sections 6.8.1 and 6.8.2 below.

6.8.1 Landscape Evaluations: Loss landscape services and a 'vicious cycle of decline'

The researcher adopts a structural approach to studying the rural landscape of Ibeno. Claval (2005) explains this as an approach developed by geographers in the late 19th century, which hinges on the premise that landscapes are developed over time by a particular ethnic group. The researcher's findings during the transect walks and drives confirm what the researcher has deduced from data on the fragmented look of the landscape.

The summary of findings here reveals the determinants of landscape change in the Ibeno community as being predominantly from the advent of oil exploration in 1980 to the time of the fieldwork in 2013 as illustrated in Table 6.3 below.

TABLE 6.3: DETERMINANTS OF LANDSCAPE CHANGE IN IBENO (1983 -2013)

	Actors	Driving Forces	Landscape Change	Year
1	Oil and gas Exploration/Federal Government of Nigeria	Oil Spills and gas flaring from exploration activities	Environmental pollution	1980 to 2013
2	Indigenes and traditional leadership	Loss of livelihood and poverty	Loss of traditional ways of fishing and drying fish Sale of land	1985 to 2013
3	In-migrants	Purchase of land	Landscape Fragmentation	2013
4	Traditional/ National Institutional failures	Landscape Fragmentation	Loss of traditional layouts and cultural heritage	To date

The summary of findings across all demographic groupings specifies that the landscape is not working well because of the following four factors;

5. Effect of pollution
6. Effect of fragmentation
7. Institutional failures.
8. Poor infrastructure.

Consequently, pollution affects the ecosystem and spatial fragmentation affects the culture, with the former leading to the latter. Pollution originates from oil spills, which lead to environmental degradation and the consequences have an effect on their landscapes, impacting on their livelihood, well-being and health. This supports Nassauer (1995) in “landscape structure as both an effect of culture and as an artefact that changes culture” (p. 230). Ibeno community B shows how changes in livelihood have changed the landscape and impacted on their culture. It is also reiterated by Jongman (2002), who remarks that the relationship between natural and cultural landscapes are the key factors that determine the development of landscapes.

Both local and national institutional failures have been blamed for not halting the degradation and landscape fragmentation. The indigenes blame their traditional and political leaders, while the community leadership blames the Federal Government and oil companies. A detailed analysis of the four factors above in relation to the responses to the theme on evaluation are presented below (headings a-d):

a. Effects of Pollution

The supporting, provisioning, regulatory and cultural services that constitute the taxonomy of ecosystem services have all been compromised, as a result of pollution from oil spills and gas flaring (Figure 6.10), whilst the quality of life and community sense of place have diminished.

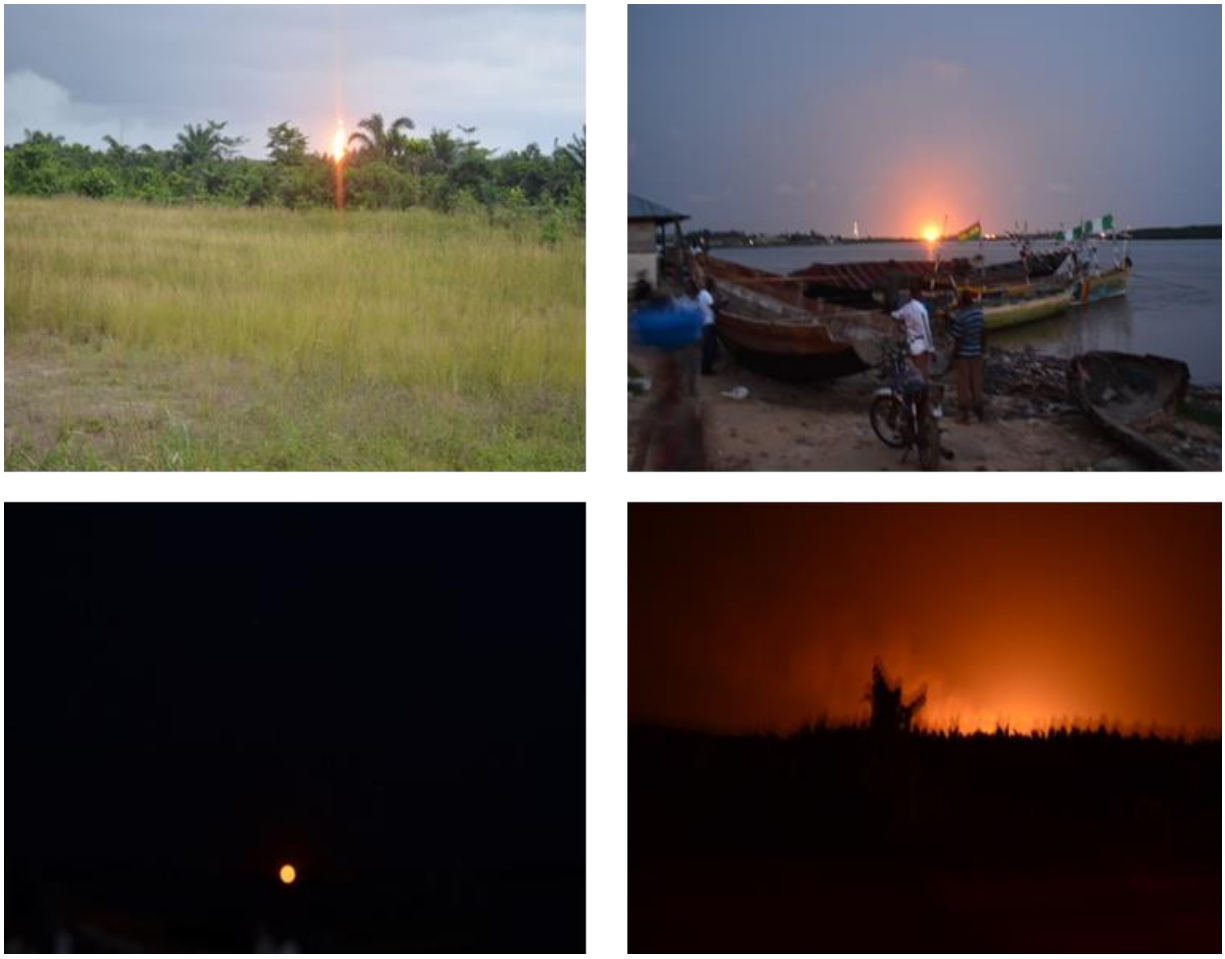

FIGURE 6.10: GAS FLARING ALL DAY AND THROUGHOUT IBENO

Source: Fieldwork 2013

The principal findings on the emerging theme of pollution from the evaluation are as follows:

i. Loss of livelihood and a vicious circle of decline

The loss of the productive aspects of the landscape, particularly in terms of its capacity to provide food has been the most discussed loss in the responses, as a result of pollution.

> *"You can't even grow okra[21] on this land". (F4Bp)*
>
> *"Indigenes are not lazy but are incapacitated because the soil is now poor and means of livelihood destroyed by Mobil". (F4Bp)*

Not being able to put food on the table implies that the means of livelihood is being lost and other vices were setting in, leading to what Falkenmark (1997) refers to as passive reactive responses, such as frustration demonstrated by the youths, general suffering, poverty and disputes, causing a general vicious circle of decline, according to Selman and Knight (2006).

> *"Because of this, some of them have become miscreants; after the fishermen return and the haul is being accounted for, they come around, demanding that they need fish. If they are not given, they damage a lot of things and, sometimes, spill the fish about to be portioned". (Y2Bc)*

An additional interesting finding was that the most recurring word heard during the evaluation interviews and also extracted from the data was the word 'livelihood', which appears to be the community's primary driver of landscape change and not the oil exploration activity itself. It is the inability to put food on the family table and also commercial purposes that appear to be the primary causes of profound changes to people's way of life and the landscape. Roe (2014) notes the numerous links made to food and productivity in landscape, when discussing cultural landscapes, indicating that "there was a special message to be read about how landscapes that can be considered productive provide special meaning. Productivity is perhaps the most fundamental expression of interaction with a landscape for humans and other species" (p. 253).

[21] Okra is a tropical vegetable plant with edible pods, which grows easily. It is also known as ladies fingers

ii. Community disenfranchisement from oil and gas exploration activity

Though loss of livelihood is itself the result of oil and gas exploration activities, the exploration activity is recognised as the source of a very good living when you are part of it; however, as the community is disenfranchised and the environment is degraded, it has become a curse, with more pains than gains.

> "*There are 48 rigs in the Ibeno area alone, yet our young people cannot boast of jobs in those places. There are some companies on shore that employ as much as 260 people to work with them, but only five or six are from Ibeno" (M1Bi)*

> *"The presence of the oil exploration by Mobil has brought no dividend to the people". (M1Bi)*

Mobil has brought very few benefits to the Ibeno community and the exploration activities do not even provide employment for members of the community, as in one instance, only five out of two hundred sixty employees were from the community.

iii. Socio-Cultural Values and Heritage

The socio-cultural values of the community are being replaced with others viewed as social ills and for this reason as negative. These are early pregnancy and single mothers, principally victims of the oil and gas workers who lure them with money. Moreover, the female youths lack concern regarding their education as there are no signs of employment. The male youths are more interested in manual jobs that only require physical strength because that is all that is required to secure odd jobs on ships off shore.

> *"These things result in different things: early pregnancy of the young girls who are mostly school-leavers. The young ones are discouraged about going to school, because even when they go to school, are not sure of a job. The young ones are not interested in studying to be better, rather they just want to grow and go work on the deck of the ships offshore. That job needs so much strength; there is no need for education". (F1Bi)*

The community therefore laments having nothing to show to its younger generation in the future. People have lost their entire cultural heritage to the exploration activities. This is inclusive of the social life enjoyed outdoors in the landscape of the past, which must have been extremely significant as it has been repeated often in the responses.

> *"The social life back then was that when they returned from fishing, they would get outside, get drums, dance and sing. They used to have cultural displays in the village squares".* (*F5-7Bp)*

> *"Our place is presently highly polluted and our chiefs are not doing anything about it. We have also lost our entire cultural heritage apart from our language….. All these are now lost. I do not even have anything to show my daughter anymore"*. (F2Bp)

The focus group discussion with the females focused on this loss of cultural values and heritage as an immense loss, which they wish to have reversed possibly because they are women and mothers and can see the value of a cultural heritage for future generations.

iv. Provisioning, Supporting and Regulating Services

The evaluation of the landscape responses indicates the loss of supporting and regulating services. One example was a response from the focus group M5-22Bpi consisting of older men, who complained of the soil losing its firmness because of landslides and erosion.

> *"When I was a child, I never saw the kinds of erosion which I see around here now. Now we have activity-induced landslides and areas that were stable crumble because of some hole somewhere. The soil has lost its firmness"*. (M5-22Bpi)

The landscape was not functioning well again from the point of view of the female focus group F5-7Bp. Oil and gas exploration activity produces vibrations throughout the landscape, which is felt when people lean on the walls of their homes. Additionally, these vibrations are also associated with differential settlements on their buildings.

> *"Well, I believe that the oil exploration has degraded our environment. There is also the issue of vibration. If you lean close to the wall, you will hear and feel slight vibrations. If you do not lay a proper, concrete foundation before building, your house might collapse".* (F5-7Bp)

The environmental side-effects of air, water and land, and ecosystem degradation due to landscape manipulations intensifies the problems with the natural resources. The environmental consequences frustrates the community and results in responses that may be active (Falkenmark, 1997), such as individual migration or the community's adaptive measures, for instance the extra care in laying building foundations

v. Health, Safety and Security

Health and safety are also compromised, as the data reveals how the fresh water is polluted and the portable drinking water has oil films on the surface and thus, is not suitable for drinking. Consequently, the community has to buy water sachets. Furthermore, the environment becomes extremely hot at night because of the gas flaring and there is often no need to switch on the lights because the landscape is well lit from the gas flaring, as shown in the photos above (see Figure 6.10)).

> *"Oil exploration has affected our landscape, from the water down to almost everything"*.
>
> *"If you fetch any water from a tap or well and keep it for the next three hours, you will see a thin film of oil over the top. If you keep it till the day after, you see rust around the edges of the cup"*.

The community continues to complain of landscape that is gradually becoming unkempt and uncared for by the government and a threat to their health, security and safety, and therefore, its general well-being. The photo elicitation interview with the youth had several photographs that illustrate this once again. Find below what is said about some of the photographs:

> *"… A bushy very bushy area. It is not safe, because wild animals and reptiles can be hiding there". (Y7Bp)*
>
> *"… An abandoned foundation. It will not be safe for anyone very soon, because it will be overtaken by bushes". (Y7Bp).*
>
> *"… A thick bush and I know that it houses micro-organisms, it is unsafe for children. Anything can live there". (Y6Bp)*

F1Bi commented on the sheer number of oil rigs offshore at Ibeno and regrets how the oil and gas exploration has also introduced a number of health concerns hitherto unknown, such as asthma

> *"Now, if you look yonder, you will see the flare from the rigs…*

"The young men of this area now have asthma commonly because of the environmental pollution. It was not like that 20 years ago, when I was a child. Now, Mobil has been joined by Network, another oil company to continue".

The responses to the evaluation of the landscape identify pollution of the landscape as a negative value that does not allow the landscape to work properly. Thus, indicating that values are not limited to the physical forms of landscapes only, but also relate to contemporary or past practices and to relationships with and within the landscape (Stephenson, 2008, p. 136).

b. Effects of fragmentation

Landscape contributes to cultural sustainability (Stephenson, 2008). An interesting finding here is how the use of the landscape by the in-migrants is portrayed as the primary cause of the fragmentation of the Ibeno community culture in general. The researcher was of the opinion that the issue of habitat fragmentation caused by pollution from oil spills would be depicted as the prime driver of landscape change and expressed more regularly, considering that it was actually pollution to the ecosystem that drove the fish out to sea and consequently enabled the *Elaijah*[22] fishermen, the in-migrants to come in. However, the data did not depict this aspect. The data indicates the in-migrants as undesirable drivers of landscape change. Perhaps this is due to the landscape scale of enquiry. Thus, the researcher would therefore agree that;

"taking an ecological systems approach to cultural sustainability would suggest that to adequately sustain a landscape's contribution to culture requires decision makers to have a detailed knowledge of the particular values of the place and how the value supports (or otherwise) cultural identity and diversity" (Stephenson, 2008, p. 128).

By the above quotation, the data would also agree that

"planning and management decisions would need to be taken in context of the cultural dynamics of landscapes, and new development would need to

[22] The Elaijas were in-migrant fishermen from neighbouring Lagos State who came to the locality with the necessary skills, finance and equipment and were successful in fishing in the high seas, which was difficult for the locals.

be designed to support and enhance these values" (Stephenson, 2008, p. 128).

It might ensure that cultural values are not lost with remediation activities.

- Sense of place

The river and its waters provided the community with a sense of place and multi-functions through which the indigenes found recreation and tranquillity; however, this is also changing. In the past, while the men fished in the rivers, the children swam. This has now changed in most waters as the in migrants use the rivers differently, littering and making the environment dirty and unsafe.

Toussaint (2008) makes similar observations in the relationship between culture and water. He explains how a range of culturally complex issues is created in relation to water, when there is hydro and ecological change in the way people relate to it, particularly if the water source is endangered. Furthermore, he notes that the local people exhibit some form of attachment that goes beyond its obvious nourishing, life giving force to their cultural ideas, belief and activities with it (Toussaint, 2008, p. 51).

Perhaps it was the photo elicitation interview with the youth and children that best captures the meaning the rivers have for the indigenes through their photographs. Y7Bp a female illustrates how the Ibeno River which was not yet polluted, played the multiple roles of recreation, relaxation and tranquillity, and had a sense of place and history, in addition to being a source of livelihood. She listed it as first of her three best places. (These photographs are presented in Figure 6.4).

> *"…a riverine area in Ibeno. It is the Ibeno River and it flows into the ocean. Children swim in the water as the fishermen do their fishing. The feeling is nice and the environment is neat".*

On the contrary, in a further photo elicitation interview with Y6Bc, a male child aged 11, the Quo River was photographed under places he would like to have changed, seeing as the river had been polluted and lost its multi-function. It could be observed here that he was from the community of commerce category and had taken photographs of his environment. This also confirms the complaint made by

the indigenes on the present state of the rivers. The young child talked about this during the photo-elicitation interviews.

> *"… the Qua River, where people dry their clothes, and people live here. People are making the water unclean, by throwing things into it, bathing and using the water. Before then, some other people (young and old) used to drink and take their bath there, but they do not come anymore, because it is polluted*". (Y6Bc)
>
> *"…a place that was formerly beautiful, but now it is not so good-looking anymore". (Y6Bc)*

The interesting finding from the two contrasting sets of photographs from the photo elicitation, confirms the multi-functional values attached to rivers in the community and their role in cultural sustainability, and how different cultural practices lead to the river losing its multi-function and landscape significance for some. It also brought to light the complex attachment to water-places in water communities, where water is not only a precious environmental resource to be managed but plays a symbolic and metaphorical part in social life, cultural politics and material struggles (Strang, 2006; Connor *et al.*, 2008; Falkenmark, 2008; Strang, 2008b; Toussaint, 2008). Moreover, for the youth and children, irrespective of whether of community of place, identity or commerce, it enhances the scenic value, which signifies that they are more attracted to it than adults and therefore, focus more on its quality. This finding confirms that of Tunstall *et al.* (2004).

FIGURE 6.11: TYPICAL COMPOUND AND STREETSCAPE IN IBENO

(Above): Typical compound
(Middle): Adjacent compound sold part of the land to in-immigrants and structures are springing up
(Bottom): Typical streetscape showing neighbouring land sold to in-migrants and for new uses
Source: Researcher from Ibeno (2013)

c. Institutional Failures

The findings explain that institutions from the traditional to the state remain negligent in ensuring that adequate provisions, regulations and enforcement are put in place to protect the landscape and its multiple values, and ultimately the people living and working it. Place-ness may be a social construction to some degree but considerable evidence signifies that it is anchored in physical landscape properties (Selman, 2012).

> *"We blame government, because the town-planners who are supposed to design the place all work for government. The police station down there is a shame, one that does not befit this community. They have completely destroyed our lives". (F5-7Bp)s*

The focus group discussion with the women refers to the neglected state of the landscape and its features, and blames the planning agency employed by the government for the condition of the landscape. They also believe the traditional institutions are left unchecked; consequently, they sell land to visitors and in-migrants leading to spatial fragmentation and its consequences on the community (Figure 6.11). They also accuse the Federal Government of not monitoring the environments subject to oil and gas exploration activities and that it is only interested in the revenue being generated. The detailed analysis can be found below:

- Control, Power and Ownership

The data illustrated a general loss of control, power and ownership of their land and resources. The findings from the responses of the focus group discussion with the females of the community portray the indifference of the exploration activities to the environment.

> *"The company thinks it is far bigger than the land and her people" (F5-7Bp)*
>
> *"Oil companies believe they are greater than the people in terms of the careless attitude to the environment". (F5-7Bp)*

The community is of the opinion that the oil and gas exploration corporation is more powerful than the Federal Government; hence, the explanation of the reckless environmental destruction, while it goes unpunished or even reprimanded.

> *"Did you not hear their name, Mobil Producing Nigeria? They are the ones even producing Nigeria". (M5-22pi)*

Meanwhile, the traditional and local political leaders are also depicted as more interested in amassing wealth and selling off the land with greater values to the visitors[23] and in-migrants than in protecting the landscape and its cultural heritage.

> *"The wealth here is in the hands of a few and we know who they are". (F5-7Bp)*
>
> *"…. If our chiefs are honest, they would have given them somewhere close to the rivers or somewhere far from town". (F1Bi)*

[23] Visitors refer to people who are not members of the community but who do business in the community and have bought property there too. They have been grouped with the community of interest and share the same characteristics. They are the in-migrants and immigrants.

"But our chiefs, our elders and others (maybe because they need the money) have sold off the main parcels of land, even some ancestral land to companies. Why don't they sell the swampy area"? (F1Bi)

The traditional and the political leadership blame the Federal Government, who they say have taken total control of the resources and the wealth and have neglected the source of both.

"We have the resources but the power is not given to us. They grab the power, they grab the wealth". (M1Bi)

"We suffer the most hazardous environmental effects of the oil exploration. The activities of Mobil and its cohorts have damaged our economies; from time immemorial, our people have been fishers. Today, the aquatic life has been destroyed". (M5-22Bpi)

The traditional leadership, who formed the male focus group discussion, complain about the lack of control and political power concerning their resources. They also bemoan the hazardous environmental effects of the oil and gas exploration activities on the landscape affecting their economies, the aquatic lives and subsequently, their livelihood.

"Gas-flaring has reduced our life span. Gone are the days when you see people who live to 80 or 90 years in Ibeno. If you talk they say go to Eket, but we are not part of Eket. Eket is a distinct local government on its own. On December 4, 1996, we were separated from them". M5-22Bpi)

"We have no water and the roads are bad. If you look, you can see some patches on the road. This is a road that leads to many important places, but nothing is being done about it". M5-22Bpi)

"Petroleum is not found everywhere in the South-south, South-east and the South-west, but we are the only ones agitating for a little attention. No light, no water, no employment, manpower development or any form of supporting our threatened livelihood – fishing. If and when you do catch the fish, the soldiers harass our people, beat them and kill some (most times)". M5-22Bpi)

The traditional leadership also point to the fact that they were the primary source of foreign revenue for the country although they have been overlooked to the extent that even the roads that lead to important places related to the exploration are also neglected. Furthermore, they continue to regret the lack of any infrastructure.

"But we cannot blame the companies, entirely, because percentages of the proceeds go to the government. The whole thing is like a conspiracy between the Federal Government and multi-nationals to cheat and suppress

the people of Ibeno. But when it spills, we are on our own, and nobody cares to take responsibility. The infrastructural development is poor". (M5-22Bpi)

A further interesting finding regarding the Ibeno landscape was observed. While the traditional and local political leadership was canvassing for resource control, as a solution to the environmental degradation, the indigenes were accusing their institution's failure of being the direct cause of landscape fragmentation by letting the in-migrants do as they wished, and therefore, having an impact on their cultural sustainability.

It is therefore worth taking note of what Roe (2012c) mentions in relation to different cultures making sense of landscape on a large scale in a variety of ways. Even though both leaders and indigenes shared the same culture, their perspectives differ with respect to what should be the primary change driver in the landscape, on a larger scale. Therefore, it has become necessary when "*unlocking landscape knowledge in ensuring that existing meanings embodied in landscapes are not destroyed*", as we try to manage landscape change and *"that in the creation and reconstruction of landscapes we provide the opportunities for positive interactions that can build new landscapes meanings for future communities*" (Roe, 2012c, p. 202).

d. Poor physical infrastructure

The responses from the evaluation also identify other issues of concern related to the community's physical landscape. These are important not only functionally but also with respect to safety and security:

i. Bad Roads

Almost every participant complains about the condition of the roads as being either in a bad state, poor state or non-existent in some places. The photographs from the photo-elicitation interview with one of the youths probably best capture this point in which he mentions;

"…a bad road, which the government should look into"

The data reveals practically everyone in the evaluation of the landscape mentions the poor condition of the roads. The researcher having noted that the roads in the

Ibeno community are better than most roads in the Region, explored deeper as to why the indigenes were always condemning the state of the roads.

One of the findings is that aside from the issue of accidents and deaths, good roads are an index of development in rural and urban areas of Nigeria; road construction projects provide a source of employment for the young people and neighbourhood from time to time. The findings also confirm that properties and landscape features by the roads have higher values when sold; hence, their owners make more money; another finding viewed road construction as being negative as it contributes to landscape fragmentation. The road actually eats into the front part of the property; thus, changing its initial cultural function of a meeting place and a safe approach, and moreover, a garden for vegetables to be used by the family.

ii. Poor state of education and its infrastructure

Many participants explain how their community landscape is fragmented by dilapidated schools and the general impact of poor education.

"…a dilapidated school, where children can get hurt while learning". (Y3Bp)

The dilapidated school building is presented not only as an eyesore to the physical landscape but also in its symbolic role of providing education in a safe environment. The meanings of landscape are further shown here to cover a broader spectrum beyond the panorama (Olwig, 2005) and to cover symbolic features whose proper functioning will make the landscape function properly as well.

6.8.2 Identified drivers of landscape change

Landscape change is either nature induced or human induced (Jongman, 2002). Findings from the data prove that the landscape change in Ibeno community was human induced and from a constellation of forces. These forces can be grouped into two prominent drivers of landscape change; one is a direct driver, while the other is an indirect driver. Hence, these constellations of forces discussed during the indigenes evaluation of the landscape play a significant role in the production of the current landscape. Additionally, the indirect driver also has primary and secondary drivers.

The data shows homogeneity in identifying the **direct driver of landscape change.** This is as an exogenous political economic force, which is the oil and gas exploration activity. The **indirect driver of landscape change** is the loss of livelihood. The two are summarised below with their impacts on the community and shown in figure 6.12.

a. Direct driver of landscape change: Oil and Gas Exploration activity

It is perceived that the oil spills from the oil and gas exploration activities of Mobil Producing Nigeria result in the loss of landscape function and services as well as create what Selman and Knight (2006) identify as a vicious circle of decline. This is because the rivers and creeks are unable to provide the landscape services, such as the goods, food, recreational needs and transportation services they used to, prior to the advent of the oil and gas exploration activities.

The pollution from the oil spills and gas flaring continues to affect the landscape/waterscape; hence, presents a challenge to general community health and well-being and also causes erosion. The community also blame the damage caused to building settlements in the neighbourhood to the extensive vibrations produced by the exploration equipment and machinery.

Mobil Producing Nigeria, the exploration company is presented as being exceedingly powerful. Therefore, the people believe that it has more powers than the government and for that reason, it does as it wants.

b. Indirect driver of landscape change: Loss of means of livelihood

The finding shows that the loss of means of livelihood causes loss of cultural values and distortion to the traditional landscape planning and management through their actors, the influx of in-migrants. Consequently, the indirect driver of landscape change are the in-migrants who are the primary drivers of change to the cultural landscape here. Additionally, the indigenes' sales of land to the in-migrant is a secondary driver in this case.

Figure 6.12 illustrates the relationship between the natural and cultural features in a stable state according to Jongman (2002). However the introduction of the oil spills (the driver of landscape change) to both the natural and cultural landscapes of the case study areas produces a constellation of other forces in the relation as illustrated inside the brown box of the diagram.

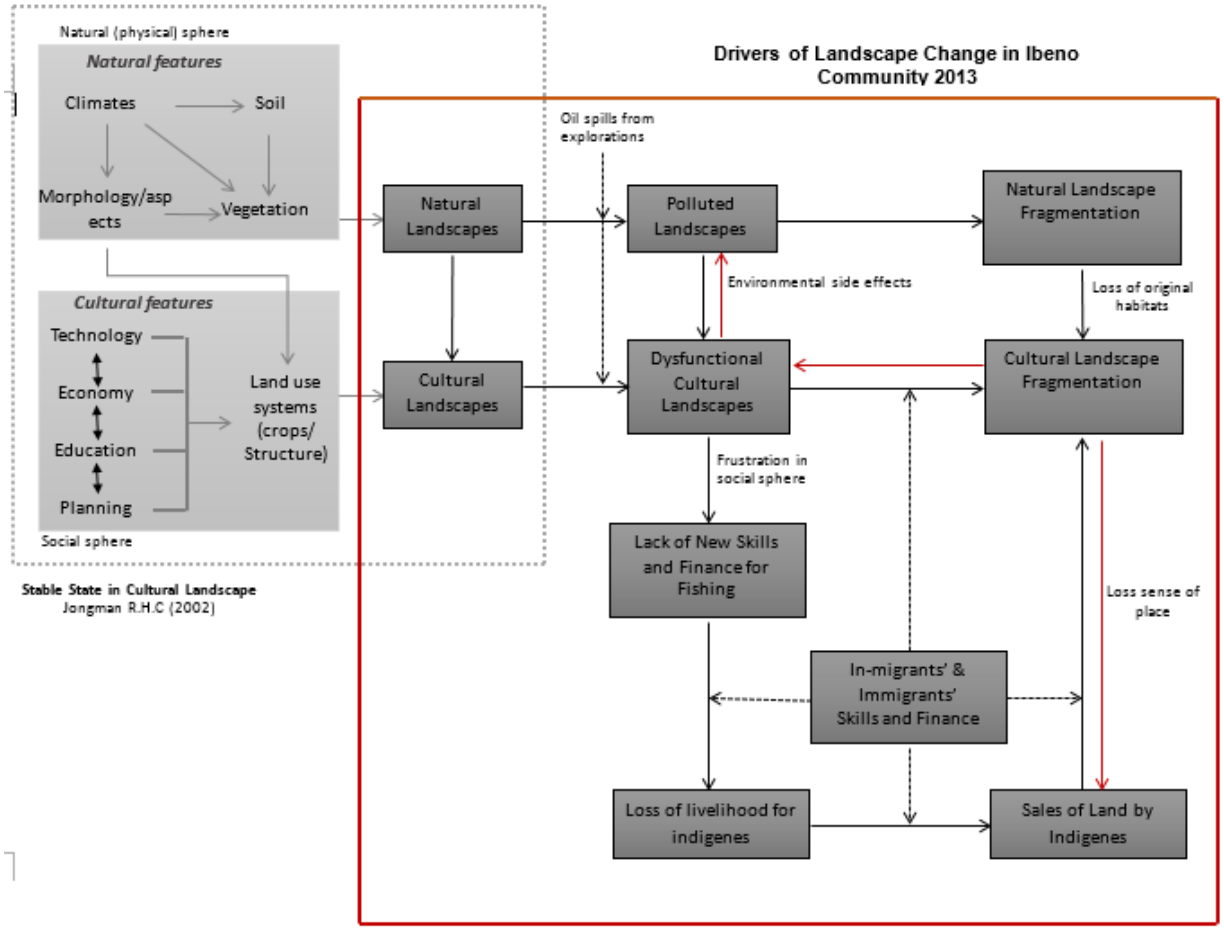

FIGURE 6.12: CONSTELLATION OF DRIVERS OF LANDSCAPE CHANGE IN IBENO COMMUNITY AT 2013

In conclusion, the loss of livelihood, which is the indirect driver of landscape change, has a visible impact with respect to how the present landscape looks and how it is being created. It has greatly impacted on the relationship between the socio-economic and natural capitals of the society and is influencing the general well-being and community landscape. The loss of means of livelihood has brought to the fore the following similar issues identified in the literature (Selman and Dawson, 2012):

1. Loss of social connections to landscapes
2. Weakening, bridging and strengthening bonding capital
3. Loss of multi-functionality in landscape
4. Youth unrest

c. Production of landscape fragmentation in Ibeno community

Numerous studies on the impact of the oil and gas exploration activities on the ecosystem services have shown how the waters were contaminated as a result of oil spills from the oil and gas exploration activities and caused the fish to die. This is as a result of "*severe reduction in organism that are key components of the benthic communities and also food for the bottom-living fish*" (Olsgard and Gray, 1995, p. 277). Therefore as the food source for the fish become less valuable, those fish that have survived have been driven further into the high seas (Olsgard and Gray, 1995; Todd *et al.*, 2010) . The indigenes lacked the new skills, necessary equipment and finance required for fishing in the high seas. Therefore, there has been an influx of '*visitor*' fishermen from the west coast of Nigeria and Ghana with the necessary skills and finance. These in-migrants and immigrants have gradually taken away the indigenes means of livelihood. They have bought land from the indigenes and erected structures that have distorted the traditional layouts. Furthermore, they have a different method of processing the fish, which require larger structures. Thus, the landscape has become fragmented and the indigenes have lost their social connections to it, which subsequently celebrates the assertion by Mitchell (1998, p. 94) that

> *'Landscape' is best seen as both a work (it is the product of human labour and thus encapsulate the dreams, desires and all the injustices of the social systems that make it), and as something that does work (it acts as a social agent in the further development of a place).*

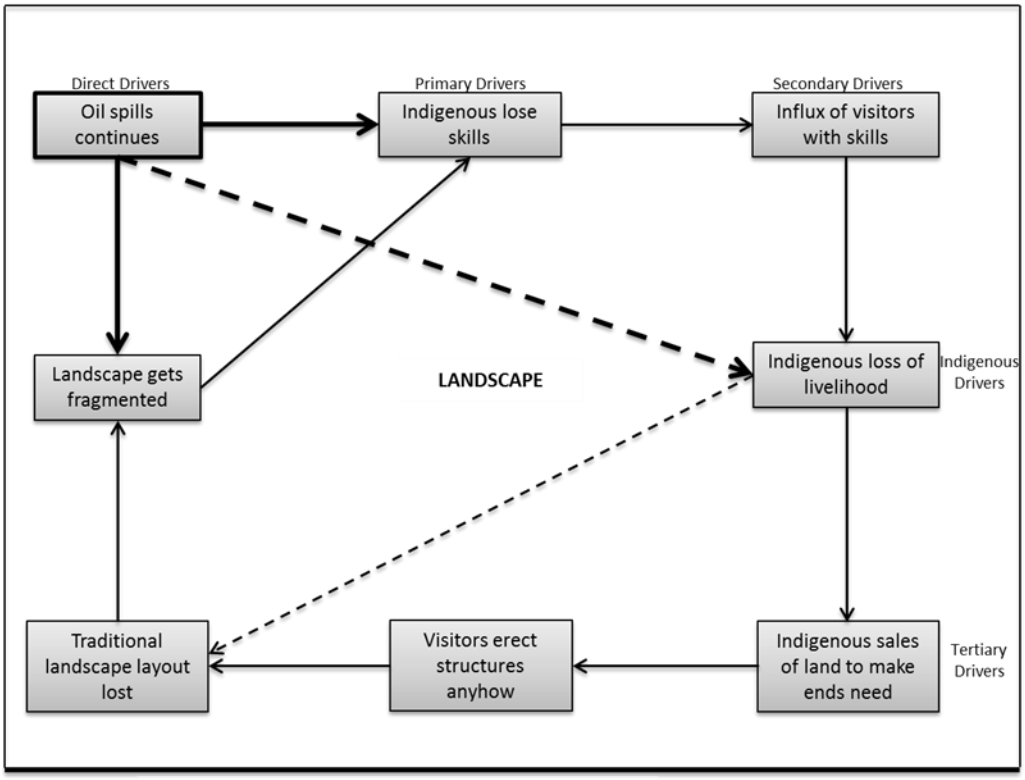

FIGURE 6.13: VICIOUS CYCLE IN CULTURAL LANDSCAPE OF IBENO COMMUNITY

The bonding of the indigenes in the community over a long period of time has therefore become stronger, particularly in the face of the challenges faced with regards to their lost means of livelihood. As shown in figure 6.13, the in-migrant fishermen are therefore perceived as 'necessary evils' and occasionally become victims of hostilities, thereby weakening potential bridging across the two, though strengthening the indigenes bonding capital. This further demonstrates how landscape here is regarded as just a product commodity seen to hide the labour that goes into its making, totally erasing its images of work, and in its representation hiding the social struggles that go into its making (Mitchell, 1998).

6.9 Theme 4: Change Model

The first three models enable a good understanding of the landscape of the Ibeno community with offshore oil and gas exploration activity. This change model suggests the community's answer to the first research question. The community landscape has undergone pollution and degradation from oil and gas exploration activities and the first three themes provide a picture of what the experience has

been like and also the outcomes regarding the landscape and the community values. The aim of this theme is:

- To identify from the community their desires for the future landscape – their visions and change drivers.

This is important because Ibeakuzie (2005b) argues that physical planning is the missing link to the sustainable development of the Region and that without this the desired vision for the Region is not realisable. But what vision should direct such physical planning? This researcher presents the argument that enquiry into communities' visions - those living and working the landscape is important.
The findings from the change model (6.9.1 - 6.9.3) feed into the discussions in Chapter 8 on the implication of the visions as related to sustainable landscapes, and with respect to the landscape planning of the Region. The findings are presented as follows:

6.9.1 The distinct expression of future landscape visions amongst the younger age groupings

The findings suggest distinct approaches to expressing what should drive landscape change among the respondents. The difference is conspicuous along age groupings and appears to span from the physical landscapes at one end of the spectrum to the social dimensions of the landscapes at the other end. Hence, the children are more articulate in desiring changes in physical landscape elements and landscape management. This includes what subjective feelings, for instance safety and security, they hope will be achieved, or those such as danger to be avoided from the landscape change. At the same time, the older youths and adults groups express their change drivers for future landscapes more in terms of the social dimensions and other associative terms.

The research observes that with regard to visions for landscape change, the children only talk about the physical elements, landscape management and nature when referring to landscape, and thus these are, their landscape change drivers. The younger youths expressed similar issues to the children but introduced concerns pertaining to misuse of the landscape by the in-migrants that they felt should be corrected. The older youths from ages 19 to 28 had visions for landscape change expressed in relation to both the social and the physical aspects. The

adults focussed strongly on the social dimensions, while nestling the physical landscape only in associative terms. The responses appear to suggest that the landscape vision spans a spectrum from the visual to the socio-political with the socio-economic, politico-economic, somewhere along this spectrum. The responses of the age groupings and genders are clearly identified as groupings.

Findings from the photo elicitation interviews shows that the children and younger youths discuss the community's flora and fauna and landscape elements in detail without being prompted. The themes that emerge from their interviews are environmental aesthetics, appreciation of the flora and fauna, communicative infrastructure, environments for leisure and recreation, appropriate landscapes for education, order and landscape management and that the future landscape should provide environments of safety and security, as a priority, followed by peace and tranquillity in general.

For example, Y2Bp presented 11 photographs as places she particularly likes. Discussing the best three to capture her future landscapes, she notes that

> *"This picture captures the sunset. The colour spectrum as the sun sets is the beauty of it". (Y2Bp)*

(The picture referred to above is figure 6.4)

> *"This Picture is a field where children play football. I love football very much, so I go to watch people play or go for practice myself. Also, the landscape is big, so one can go for driving lessons". (Y2Bp)*

“This one is a coconut plantation. Its proper arrangement beautifies the area”. (Y2Bp) on picture 11

“This Picture is a field along the road to school. I like the field, because it is natural and there is this monkey I always see on my way to school, as it jumps from branch to branch”. (Y2Bp)

"This Picture is a riverine area in Ibeno. It is the Ibeno River and it flows into the ocean. Children swim in the water as the fishermen do their fishing. The feeling is nice and the environment is neat". (Y2Bp)

"This Picture shows the back of my school. The area is cool and we get to relax and talk, as we feel the nature". (Y2Bp)

The photographs by respondent Y2Bp express some of the themes that are generated by the younger youths and have been presented in this chapter conclusion (Table 6.4).

6.9.2 The differing change drivers amongst community types

The three themes of representation, process and evaluation as mentioned previously, provide the background information necessary to the understanding of the visions for future landscape. One of the research's findings is the several distinct differences in the way the landscape affects the three groupings of community of place, community of identity and community of interest. This is in addition to how it affects their interaction with it as individuals and also as a community. Hence, the landscape is seen to be approached again from a different perspective. Their needs and aspirations for the landscapes often differ, not only along age and gender divides - as explained in the process model - but also along the participants' rootedness and 'interest' in the place.

The research observes that there are several participants whose responses exhibit indigenous, experiential and expert knowledge (Tress *et al.*, 2006b), in addition to some possessing more than one of these. These knowledge types are also exhibited in the emotional attachment to the place and in how the vision of the future landscape is presented.

Therefore, in coding the participants for anonymity, the researcher included in the code whether the participant was an indigene resident in the place (p); or an indigene living elsewhere (i); or whether the participant (c) was an in-migrant or immigrant. This was used during the analysis to achieve deeper insights into what perspectives might be influencing the responses (See Tables 6.1 and 6.2 on the characterisation of respondents and codes for the participants above).

An interesting finding is that the change drivers for the future landscapes are seen to be similar amongst the communities with similar roots and interest and or knowledge. The community of place for example shares both indigenous and experiential knowledge because they are tied to a physical space through geography and their visions for landscape change fall under the same themes. The same could be said of those in the community of identity, and moreover, the interest/commerce groups too. The emerging drivers for future visions are therefore presented according to community types below.

6.9.3 Emerging change drivers for future sustainable landscapes

The findings on what should be the change drivers for the future landscape visions are presented according to community type. Community of place, community of identity and community of interest/commerce are used for the groupings, as seen in the details below.

a. Community of Place

Two groups of related themes emerge embedding the vision for future landscape for the Ibeno community of place. The visions intended for landscape change are in livelihood, territoriality and rootedness as well as in environment, education and distrust for authorities; hence, the request for good governance. The two groups are explained further below:

i. Livelihood, territoriality and rootedness

The present landscape change has been caused by loss of livelihood for the adults. The vision for landscape change is therefore by means of livelihood and in this case it is fishing and related activities familiar to the community.

> *"I need handiwork, sort of, so that I can use it to sustain myself". (F3Bp)*
>
> *"But where will you get the fish?" (Researcher)*
>
> *"We will get the fish when some traders come from the uplands to sell their food items and other things". (F2Bp)*

The change driver according to one of the females is finance, which she believes is essential for many functions; the primary one being to buy fish to sell. This is the traditional source of income and one which she is not willing to simply abandon.

> *"Solution for me to buy fish is money (F2Bp)*
>
> *"This is our tradition and one cannot run away from it. I have been trading in this for many years; I cannot get up and leave it (F3Bp)*

She required the finance to enable her to repair her house and compound, which she leases to the in-migrants and was in an undesirable state at that time.

> "*I can use some of it to repair my house". (F2Bp)*
>
> *"Elaijah, the Yoruba people have their own style of drying, this is how they dry their own crayfish… Let your friend take you to their quarters to show you how the spoil the landscape with their own style". (F2Bp*)

The above vision to make good her house and compound because the in-migrants have turned it into an undesirable state also represents the community's vision. This is because the respondent asked the researcher to be taken to the in-migrants neighbourhood to observe the degradation that has taken place, as a result of their ways. The researcher finds in these responses a sense of rootedness and territoriality by the community of place, so much so that they were interested in restoring their landscape to its traditional planning by means of individual efforts.

The community of place exhibits both experiential and indigenous knowledge and shows the emotional relationship that exists between the people and their places. This relationship gives people place identity and place attachment, which

reinforces their sense of rootedness and expression of territoriality and hence, their sense of place. The emotion to reconnect with the physical setting of the past cultural landscape which is perceived to have existed before the coming in of the in-migrants is a vision that the respondent believes would be realised even at an individual level by finance if nothing more. This further strengthens the desire for means of livelihood, as it can be a change driver for the landscape, within the control of individuals.

The findings relating to this vision of the community of place indicated the strength of the social dimension of landscape. It also shows that the human landscape is not just a work of art but the product of sweat, hardship and earnest thought (Taylor and Lennon, 2012). Though many of the products in the landscapes are tangible, the intangible consisting of how they are, what they are, where they are and why they are there can only be understood by understanding the landscape process that produced them.

Employment was also the primary vision for landscape change desired by the older youths of the community of place. Consequently, there is strong displeasure from the youth group that even after having acquired education in tertiary institutions they still end up as secretaries to the in-migrants who own the trawlers. Hence, they made reference to being subservient in their homeland with respect to the in-migrants.

> *"Some of those who graduated from the polytechnics and universities are employed as secretaries to the owners of trawlers, because they cannot get better jobs". (Y1Bp)*

Therefore, for the youths, there cannot be any good landscape change without the issue of employment being addressed. They suggest that industries be established to employ them or that they are employed by *Mobil Producing Nigeria*.

The vision of the youths show the contestation within the vision of landscape change. While the adults' vision was livelihood around fishing, the youth's vision of livelihood is open to the influence of economic globalisation and urbanisation, as a change driver. Hence, they are open to jobs in industries and even employment by the oil exploration company, which has nothing to do with fishing. The adults are also in support of these sources of livelihood. This agrees with Manzo (2003), who

demonstrates that the affective relationship to place existed within a larger socio-political milieu, and could be both unconscious and conscious and is ever changing and dynamic.

ii. Environment, Education and Distrust for Authorities

The individuals of community of place show strong concern for the state of the environment and they lament the degradation and loss of land. Hence, they want the authorities to halt the environmental pollution.

> *"There was a lot of water, but it was not like this. Now, the water is threatening to take the land. The water has encroached so much, so that some portions of the embankment are breaking". (Y1Bp)*

Beyond imploring the authorities halt the pollution, there appears to be a lack of trust for the authorities generally. The community of place lacks confidence in the authorities because of the issue of corruption, which came up along with that of compensation from oil companies not getting to the target population that has suffered damages. The authorities are not expected to bring about any meaningful change in the lives of the people, which would thereafter translate to positive change drivers for the landscape. The participants said:

> *"Because of people with big eyes and big hands who collect the money and do nothing for us the waterside women". (F2Bp)*

They prefer assistance to be rendered to individuals or at the household level.

> *"Yes, for each person". (F2Bp)*

> *"But if it is for the generality, where the government will have to come in, I refuse to accept". (F3Bp)*

The community of place would also prefer any compensation from the oil companies, as a result of oil spills, to be given to individuals to enable them to help themselves. One of the ambition is also to provide a better education for their children, although not in government owned schools, which they believe provide poor quality education.

> *"When we get this money, we will also use it to send our children to schools – not the school the governor has brought. They don't teach anything in those schools. – Where they teach them well. Not this free education". (F2Bp)*

The lack of trust and confidence in the authorities probably explains why the direct driver of landscape change, which is the oil spills and gas flaring from the exploration activity, is the focal issue in most protests and unrest against the government and the multi-national oil companies in the Region. This is because this driver of change is considered beyond the community's capacity to rectify or remediate being an exogenous force.

The findings for the vision for landscape change with the community of place suggests a great emphasis on the human scale, the individual and household level, and a strong relationship between livelihood and positive landscape change. By inference, poverty is a key negative driver of landscape change. This confirms the intrinsic relationship between the people with place and how at a human scale, a more stable and productive means of livelihood might have averted the negative drivers of landscape change.

b. Community of Identity

These are the indigenes with strong ties to the location because of birth though they may not necessarily be resident or working there. They are tied to each other again through social characteristics that may transcend the location, for the reason that they have exposure elsewhere, either nationally or internationally, and thereby possess experiential, indigenous and expert knowledge.

Strong themes emerge from the research to drive future landscape change in Ibeno from this community of identity, although the salient change driver that can be deduced is urbanisation. The themes are livelihood, infrastructure, technology then institutional as well as political controls and good governance, while the last two are education and cultural heritage.

The elders and leaders declare that the general vision to guide landscape change is summarised in the traditional anthem of the Ibeno people known as '*abasi Ulong*

Ulong', which refers to a landscape overseen by a god of abundance and a god who never lacks.

> *"Our slogan is Ibo Akwa Abasi. When the white people came in 1887, they could not pronounce it, so they called it 'Qua Iboe'. When the state was created, they took a leaf from that. Our anthem is Abasi Ulong Ulong - God of fulfilment, God of Wealth, God who never lacks". (M1Bi)*

The themes that appear to guide future landscape change therefore enable the achievement of abundance of wealth and good fortune, as pencilled in the goal of the anthem. The themes from the responses are discussed in detail below under three groups.

i. Livelihood and Technology

Probably because this group possesses expert knowledge, the leadership and elders are completely aware of the enormous damage done to their environment by spills from oil exploration, which is the principal driver of landscape change. Therefore, they acknowledge the difficulties of returning to the precise ways of the past and hence, look beyond the known means of livelihood to possible alternatives.

> *"We suffer the most hazardous environmental effects of the oil exploration. The activities of Mobil and its cohorts have damaged our economies; from time immemorial, our people have been fishers. Today, the aquatic life has been destroyed". (M5-22Bpi)*

The livelihood vision of this group transcends that of returning to the traditional fishing to what Le Dû-Blayo (2011) refers to as an acceptable scale of development from adjustment to land resources and the maintenance of multi-functionality. Thus, they suggest other means of livelihood that maintains roots in the community.

> *"We have very good sand here and it is good for glass. If the government wants to help, they can establish a glass-making factory here. It will mean a great deal to the community". (M5-22Bpi)*
>
> *The sand here is excellent for glass-making, and that river down there which you see (pointing) is edible salt. It came in handy during the civil war – that was why we did not suffer from kwashiorkor. Is the government unaware of all these? I don't think so. (M1Bi)*

The men in this group proposed the establishment of industries for salt extraction and a glass factory as a change driver for future landscapes. The community believes there is potential to develop better livelihoods using these landscape resources and also to provide restoration potentials for their lost landscapes. They are suggesting the creation of a new of sense of place through an exploration of their landscape resource use.

The women in the group want industries and new technologies but their visions hinge around the traditional fishing interest of the community. Developing this would provide work and maintain their cultural heritage on which many other cultural aspect hinge. Hence, to drive landscape change, it should be earning a livelihood through factories for drying, processing and packaging fish, while modern fishing techniques, such as the use of trawlers should be made available to the youth to encourage them to fish and consequently boost employment.

The perspective of the community of identity here is in line with Le Dû-Blayo (2011) where she suggests the interaction of three concepts; resistance of territory, remanence of landscapes and resistance of people as opportunities to develop a more balanced view of the complexities of the world when planning landscapes. 'It is not just about creating pleasant landscapes or of finding in the landscape of the past all the answers to the problems of the future' (Le Dû-Blayo, 2011, p. 418) but in allowing the present landscape to provide alternatives that could enable societies to continue to sustain a livelihood, while still maintaining their sense of place.

ii. Institutional controls, Power, Good governance

This group see the present degraded condition of their environment as the result of failures in environmental governance and institutional controls. They believe that if the government is concerned about their well-being, the oil exploration would not have been left unchecked to destroy their environment and local development control bodies would have been "*zoning out the in-migrants because they make the landscape look dirty*", according to F1Bi.

> *"We are peaceful people and willing to embrace people who will invest and we develop together". (M5-22Bpi)*

The landscape vision of the group of identity lies in power which they have termed '*resource control'.* This view is presently being canvassed by the people of the Niger Delta Region who suggest that because of protest, unrest and sabotage, the Region was able to secure the slot of 'the President of the Federation' in the current democratic dispensation allocated to the Region in 2011.

> *"We have the resources but the power is not given to us. They grab the power, they grab the wealth". (M1Bi)*
>
> *"You talked about 'the other option', but we have no one in government to 'push' these things for us. Some of the leaders in the states are not from oil-producing states and some of the leaders in the state are not from oil-producing local governments. How can they care?" (M5-22Bpi)*

It is the opinion of most of the respondents in this group that the Ibeno community, as the resource base of the country should be urbanised and second only to the country's Federal Capital in terms of contemporary physical planning and environmental aesthetics. M1Bi mentions that the '*place in real thinking should be annexed to Abuja*[24].

iii. Infrastructure, education and cultural Heritage

The data seems to suggest that this group would prefer urbanisation to be the future change driver. They declare that they have the resources and are exasperated with '*in-migrants driving-in in huge numbers daily to work for Mobil and not to reside in and develop the community'* because the community lacked infrastructure. Conversely, they are also unhappy with another set of in-migrants that have come to take away their means of livelihood as they possess better skills for fishing on the high seas and have better finance. These in-migrants pollute their landscapes owing to the differences in culture. The group further want a communicative infrastructure and education as change drivers for future landscape. F3Bi, said they want "light, and water then send youth abroad".

[24]Abuja is the Capital city of Nigeria. It was created from new in 1983 when it became unbearable to continue expanding in the old capital of Lagos

c. Community of interest

The members of the community of interest (also known as community of practice or commerce) are the in-migrants, the immigrants and also the employees of *Mobil Producing Nig*eria who commute daily to work in Ibeno. Nevertheless, the researcher did not interview the employees of *Mobil Producing Nigeria* due to the protocol required to obtain consent and moreover, as they do not actually reside in the location and are brought to work on a daily basis in the company's commuter buses. The community of interest have the characteristics of being non-natives or not from the location. They work and/or reside on location and may have commonalities in how they relate to the place but may be geographically situated outside the place. Additionally, they may possess experiential and expert knowledge (Tress *et al.*, 2006c).

There are three general themes from the community of interest related to future landscape change in Ibeno and these are:

1. Infrastructure for development and commerce, including assistance with immigration policies to ease transportation of vehicles for the immigrants' businesses,
2. Finance in the form of capital for fishing equipment and materials, and compensation
3. Education for the youths.

These are further elaborated in the following section:

i. Infrastructure for development and commerce

The data seems to suggest more contentment amongst this group with regard to livelihood although they exhibit displeasure with the condition of the landscape. Therefore, infrastructure as a change driver for development and improved commerce was identified.

> *"The fishing business is important; because that is the way we get our income". (Y2Bc)*
>
> *"We sell our fishes immediately; we bring them here" (M2Bc)*
>
> *"The roads and the embankments are the major things. If the embankments are re-enforced, the erosion will be checked". (M2Bc)*

> *"I have been here since 1990 and if I had not been happy about this place, I would not have been here till this time. The village sold this piece of land to me to build my house. How can huge town like this not have very good roads? If the government develops this village, it will profit the people from far and near". (M2Bc)*

The above responses from the male immigrants indicate a level of contentment with regards to livelihood and with the community. These are reasons for their stay in the community, in the absense of which they would have relocated.

The response also confirms that land was sold to them to build the house by the village. They also yearn for change drivers that would be beneficial for both indigenes and non-indigenes. Another characteristic of the community of interest exhibited here is of their ability to be mobile, which suggests a willingness and ability to relocate to a favourable place if necessary and even within the same community. Furthermore, they are not too tied down to this place and the interest appears to lie more on an environment that is conducive for improving their livelihood. This is unlike the other types of communities which indicate no strong desire to relocate. In fact, the community of place actually has no interest in abandoning their land and relocating is not an option.

ii. Finance as capital and compensation

The community of interest would like finance in the form of grants or aid to assist them to replace fishing nets and equipment repeatedly damaged by the oil spills. This will ensure the continuity of their means of livelihood. They also indicate that like the indigenes, they should also receive compensation, given that they also suffer the effect of the oil spills. It is worthwhile noting here that the finance canvassed for does not indicate any connection with improvement of the environment, as is observed with the community of place.

iii. Education

The older youths in this group appear more relaxed and able to discuss the landscape in relation to its environmental aesthetics and recreation, as a change driver for future landscapes. They personally talk about wanting to gain an education, unlike the older youths within the community of place, who complained about not benefiting from having an education because of unemployment.

"Actually I am a student though already employed". (Y2Bc)

"When they bring the fish, I take stock. I am just like a secretary. I count up the good fishes, measure the weight and when we go for a meeting, I give an account of what I have discovered". (Y2Bc)

The data suggests that this group has a commitment to place for as long as there are mutual benefits. However, culture and heritage or some emotional attachment to place does not feature as a change driver.

6.9.4 Summary of change drivers for future landscapes in Ibeno

The table 6.4 below summarises the change drivers that should form the visions for future landscapes pertaining to the different community types. Understanding these change drivers plays a significant role regarding the visions of sustainable landscapes and the implication for landscape planning, which will be discussed in Chapter 8.

TABLE 6.4: SUMMARY OF CHANGE DRIVERS FOR COMMUNITY TYPES IN IBENO

	Community of place (p)	**Community of Identity (i)**	**Community of Interest (c)**
Change Drivers	i. Livelihood ii. Territoriality and rootedness iii. Environment iv. Education v. Good Governance	i. Livelihood ii. Infrastructure iii. Technology iv. Institutional political controls and good governance v. Education vi. Cultural heritage.	i. Infrastructure ii. Finance iii. Education iv. Immigration Policy

These change drivers can be broken down further using the five dimensions of sustainable landscapes, as sumarised by Selman (2008). Hence, the change drivers for the community of place accentuates the economic, social, environmental and political dimensions. The community of identity emphasises the five dimensions, whereas the community of interest or commerce also comprised all the dimensions (Table 6.5)

TABLE 6.5: CHANGE DRIVERS TRANSLATED INTO DIMENSIONS OF SUSTAINABLE LANDSCAPES BY COMMUNITY TYPES

	Community of place (p)	Community of Identity (i)	Community of Interest (c)
Change Drivers in relation to dimensions of sustainable landscapes	i. Economic/ social ii. Environmental/ Social iii. Environmental iv. Social v. Political	i. Economic/social ii. Environmental/ aesthetic iii. Environmental/ Economic iv. Political/Economic v. Social vi. social	i. Environment aesthetic ii. Economic iii. Social iv. Political

Examining the frequency of each dimension in the community type, one could infer that of the change drivers presented by the community of place, more were social in number (3), followed by environmental (2) and one each for economic and political. However, the economic has impacted upon the social, and similarly the environmental. The community of identity has three of both social and economic dimensions, the environmental dimension has two, whilst aesthetics and political have one each. Furthermore, the community of interest had one for each dimension. These have been discussed in relation to the possible implications concerning sustainable landscape planning for the Region.

6.9.5 Chapter Summary

The study is successfully conducted in Ibeno in the Niger Delta, a Region considered hostile and labelled a war zone. As an outsider insider, the research employs a methodology accepted by the people. The community leaders and elders are consulted at the onset and the community is briefed adequately and honestly with regard to the aim of the research. Personally I understood what preparation was required in such areas concerning the personal safety of all those I was engaged with. The preparation included a covert operation arranged by the command of the Nigerian Army. A plain clothed armed (but not obvious) security detail, a white Hilux security vehicle (also not obvious) and its driver constituted the security team while I also had an assistant. All members of the team could only communicate in English as we all spoke different dialects. This was an additional and essential security measure. The fieldwork was also able to conform to the requirements of the Newcastle university ethics and I returned without my safety being compromised i.e. being kidnapped as initially feared.

The analysis involves generating themes from the questions taken to the field which are questions from the Framework Model. The community responds to the questions through narratives and stories, in addition to a description of the physical setting itself. The past landscapes are seen as productive and tranquil, while those of the present are seen as disconnected and degraded. The themes generated through the understanding of the process

within the landscape point out how the different demographic groups have different perspectives on the landscape. The analyses also presents the drivers of landscape change currently operating and shaping the landscape. The evaluation of the landscape generates themes that exhibit all the nuances similar to those observed in the literature. This is with regard to what constitutes the effects of the challenges faced in the landscape. Equally, themes are generated that present the communities desired future change drivers.

The research findings include the identification of the drivers of landscape change in the Region and the connection between oil and gas exploration and the actual landscape fragmentation that has occurred in the Region. This demonstrates that the oil spills do not directly lead to loss of livelihood - not that it should be condoned given that it changes the environment for the livelihood - but that it was the lack of finance and skills in these communities to continue fishing under the changed circumstances that has led to loss of livelihood. This claim is supported by the ability of the in-migrants and immigrants to earn a livelihood despite the current situation.

The findings further show that in the relationship between society and landscape, there appears to be an accumulation of values with age and that focus on landscape values shifts with age and gender. Additionally, in relation to the older age group the findings suggests a gender difference with regard to the focused values in the landscape.

The study was able to draw up the processes within the Ibeno landscape and furthermore, identify the drivers of landscape change at various stages. The dominant driver of change in the cultural landscape is the in-migrants and their different culture. Here, the researcher suggests that if the skills and finance were adequately available and timely, the driver of landscape changes could possibly have been different and hence, the story of the degraded and fragmented cultural landscape may have been different as well.

The study has also established that even in a polluted landscape the characteristics of the communities of place, identity and interest are similar to those identified in the literature. The study has also been able to establish the importance of a bottom up approach involving listening to local communities, as it has exposed the relationship between the numerous constellations of forces driving the landscape change an understanding of which is crucial to a more sustainable landscape and also to landscape planning.

7 Chapter 7. Eket and Environs: Communities without Oil and Gas Exploration

7.1 Introduction to the analysis

The previous chapter presented the analysis of the case study community 'B', with the oil and gas exploration activities. The community is homogeneous in terms of language and culture as well as share the same local government area while fishing is their predominant occupation. This chapter examines community 'A' (without oil and gas exploration activities). It is heterogeneous in nature. The participants here come from different local government areas although they live together in various locations. The landscape types in community 'A' are various and the dialects of the participants are not always the same. These communities are from all the thirty-one but one local government areas in the Case Study State (Akwa Ibom).

FIGURE 7.1: MAP OF AKWA IBOM WITH ALPHABETS REPRESENTING THE SENATORIAL DISTRICTS

Source: Essien and Abasifreke (2014)

This research uses the 2015 political map of the State for the purpose of easy identification of participants' landscape types and locations. The local governments are zoned into three senatorial districts, shown by the three different colours on the map (Figure 7.1). These senatorial districts are identified with the letters 'a' for Eket; 'b' for Uyo and 'c' for Ikot Epene. One of the three letters is appended to each respondent as a means of identification with his or her senatorial district. These letters assists in providing characteristics of the landscape under discussion by the respondents'.

7.2 Background to Participants and landscape types

During a focus group discussion with a group of five youths from the Akwa Ibom State University *Mkpat Enin*, landscape types are identified and these are used as the baseline for discussion with other groups.

The participants' responses provide an indication of the different landscapes represented by the participants. The different landscape types were deduced therefore by their land use, history, culture, scenic properties and available infrastructure and furthermore, proximity to urban areas. The focus group discussion identified the following landscape types and the researcher coded them as described below for inclusion in the anonymised names for the respondents from these communities.

a) TRADITIONAL: The traditional village rural landscape had an absence of basic infrastructure and is represented by 'x' in the coded names for respondents in the analysis.
b) TRANSITION: The traditional landscapes undergoing modernisation are the second group of landscape types represented by the letter 'y' and consisting of basic cottage industries and infrastructure, such as roads.
c) MODERNISING: The third group is at the end of the spectrum symbolising an additional rural landscape represented by the letter 'z' that had undergone substantial modernisation and had lost most of their original traditional landscape character. Furthermore, it has begun to acquire the character of a town.

A participant's coded name contains the gender, either 'M' for male or 'F' for female, or 'Y' indicates youth, followed by a number, which confirms the position of the respondents on the interview list. Additionally, it also carries the landscape type as described above and the senatorial district (Appendix 7a). These details assist the comparison of responses and in the identification of trends in gender, demographic groupings, landscape types or senatorial zones.

7.3 Results from themes taken to the fieldwork

The data from responses to the four themes of representation, process, evaluation and change models that have been used in the field in community 'A', representing Eket and Environs are analysed and presented in detail from sections 7.4 to 7.8 below.

7.4 Theme 1: Landscape Representation

As with Chapter six, this theme aims to understand the way people perceive and consequently describe their landscapes of the past, as well as the present. The data demonstrates that the representations of the landscapes in the community without oil and gas exploration activities are expressed through narratives of their daily living and occupations.

7.4.1 Forms of Responses to Landscape Representation

a) Narrations: Impact of occupation on landscape

The narration in this community appears to centre on the activities of the day leading to the attainment of a means of livelihood within the landscape. In understanding this rural landscape, attention is paid to the narrative of the daily chores and its relationship with making a livelihood from the landscape. This is undertaken with reference to Claval (2005), who mentions that an analogy exists between the landscape and languages as 'rural landscapes were organised according to rules and they obeyed a certain grammar' (Claval, 2005, p. 9).

The response below is a narration indicating that even on the days that the women do not go to the farm; it is also a day filled with labour, which begins by firstly preparing the male spouse for the farm or fishing. Subsequently, they do the house chores, and prepare or allocate different tasks to the children to be undertaken. Before the advent of education, youths (boys) followed their fathers to the farms or high sea, so as to learn the trade and how to make a living. The girls stayed at home with their mothers sorting out the farm or fishing produce.

> *"Well, then, a village woman would wake up in the morning and she would take care of her children, her husband (by helping him prepare for whichever work it is he is preparing for, be it farming or fishing). If it is necessary for her to follow the man to the farm, she will do so. If not, she will remain at home to do the house chores. The children will be engaged doing whatever the mother wants them to do". (F19bi)*

Therefore, the residential rural landscape has a layout that indicates functions for all the activities, which assist in the earning of a livelihood.

b) Physical setting

A number of responses, for instance the one below describes the structure/character/layout of the village landscapes, indicating the distances the farms are from the village and how tiring the whole experience is primarily for the children. This includes having to transport the farm produce on foot by carrying it on the head; thus suggesting that the farms are outside of the villages and also signifying a pedestrian mode of transportation.

> *"I can recall when I was between five and ten years old. Then, when we went to the farm, we came back very late, because the farm was very far from the village (the distance was probably six miles) and we would be very tired from carrying the load on your head. Despite being so tired, you cooked". (F19biz)*

Several responses present an impression of how occupation structures the landscape and hence, the landscape expresses the way the occupation works. The layout of the farms and plantations, for example give the landscape structure and character. The villages are well laid out with open spaces used for various activities required to process the farm produce and dispose of the

waste, which is regularly made into compost or recycled as building materials (see Figure 7.2). It was only recently that the practice was lost.

FIGURE 7.2: TRADITIONAL VILLAGE IN RURAL LANDSCAPES (WELL MANAGED AND MAINTAINED)

Source; Fieldwork 2013

What remains or has been lost in terms of functions and character, association and memories of the past landscapes were revealed during the transect walks. Below are various extracts from the responses detailing the character of the landscape and explaining the rural ways of life that impact on the landscape.

> *"Over there is a pineapple plantation. It is natural, not the hybrid type. Each plantation is demarcated with a column of plantain trees". (*M15biz)

The response above illustrates how edible plants were used for demarcation giving the landscape its spatial character. The extract below explains the various economic and medicinal uses for the plants, including its other uses in housing construction (Figure 7.2).

> *"These trees – banana, pear, mango and the rest of them are medicinal and economic – can be used for anything. Some of their barks are quite medicinal". (M16bpz)*

The villages in a community are separated by thick bushes and farmlands (Figure 7.3). These farmlands were acquired in specific ways through inheritance or by way of purchase, as M15biz explains.

> *"Each village was separated by thick forests, so there were two ways to get land: you either inherited it or you bought it from someone else. At*

the time of the forefathers, the land was so much that their children did not know the extent of their land, so they used stones to devise a means of demarcation. If you threw the stone, wherever it landed, that is where the expanse of your land stopped". (M15biz)

All compounds[25] in the villages also have vegetable gardens. The village houses are of the traditional mud types (Figure 7.3) with common spaces for family gatherings and an enormous square for the community of villages. The functions of both the private family spaces and those of the community are explained in the responses below:

"But if you go to the compounds, you will discover that each family has a small garden where they plant things the family can use from time to time". (M13bcz)

"The houses back then were round, common places…..To particular families only". (F18bcz)

FIGURE 7.3: TRADITIONAL RURAL LANDSCAPE SHOWING ROADS TO VILLAGE COMPOUNDS

Source: Fieldwork 2013

The family compounds are private, belong to the families and have gardens that provide vegetables for daily use, while the village square is for the community's religious activities and cultural parades.

[25] A compound is used to describe the landscape of a household

"We had a village square, a huge one, but it was not for social gatherings. It was more used for religious activities, masquerade parades and all that". (F18bcz)

"…Quite far and it was not for everyday uses. These huts near the houses were more suitable for everyday uses". (F18bcz)

Additionally, the village squares are located outside the community. In the past there were smaller communal spaces located within the community for recreation purposes, as described below.

7.4.2 *Description of past landscapes*

The findings on past landscapes suggest they are places of intense labour during the day and of communal social activity at night, although regarded as serene.

a) Serene Landscape of intensive labour by day and communal social lives at night

The narratives of past landscapes of the communities without oil and gas exploration activities are predominantly presented using two unifying themes, across all the three community types of landscapes identified in section 7.3 above. The first theme in the narration is that of landscapes of intensive manual labour during the day, while the second theme is of landscapes of communal social lives in the evenings and during festive periods.

The environments of both themes are considered serene and tranquil. These activities during the day and at night provide character and function to the spatial landscape. The landscape where farming is the predominant occupation is dotted with activities and spaces for the processes, storage, use, disposal and marketing of the produce, while the same is said of landscapes where fishing is the dominant occupation.

Thus, the finding suggests that the rural landscape here could be studied from the functional approach based on the premises that it is organised around cultivation and cattle rearing (Claval, 2005). The landscape of the past was also characterised with structures that allowed for relaxation and entertainment during the evenings, in addition to various spaces for communal

functions and festivals. Occasionally, these spaces served multifunctional purposes, such as the village square.

The responses demonstrate how the traditional occupations played a role in shaping the daily lives and landscapes. The representations tell a past place history of farming and/or fishing of intensive labour to that of changes in the present brought about by changes in mode of production introduced by phases of modernisation. This concurs with Jorgensen (2014) when she mentions how,

> *"Landscape interventions, whether to mitigate the impacts of climate change or to effect ecological restoration, can only be sustained if the social dimensions of change are considered in conjunction with the environmental and technological challenges involved" (Jorgensen, 2014, p. 609).*

The changed past modes of production introduced by modernisation explain that no matter how remote the relationship of the people with the landscape, it was similar to a canvass on which their stories are painted. Jorgensen (2014) again aptly put it thus;

> *People (both individually and through the medium of social or corporate 'stakeholder' organisations) play an integral role in shaping their environments, even in places or circumstances where their daily lives are seemingly remote from the underlying and surrounding landscape (Jorgensen, 2014, p. 612).*

A typical day in the traditional rural landscape of the past was introduced by the respondent below through a narration of how little was known about education and therefore how the day was structured around the farm in a different way from today's modernised ways. The day started with a meal which gave ample energy for the day's physical labour. She said,

> *"In the rural area then (I come from Ikpen Ukom in Oron[26]), our parents didn't know about education and all that. All they knew was to wake up in the morning, eat a little garri27 and soup and head to the farm. You worked till evening and by the time my mother started cooking would be*

[26] Ikpen Ukom is the name of a village in the Oron Local Government Area of Akwa Ibom in Nigeria

[27] Garri is a stable food made from dried grated cassava poured into boiling water and made into a mound that is eaten with stew or traditional soup. It has high calorie content as it is rich in carbohydrate. It is thus a good source of energy.

at about 8 or 9p.m. Most days, dinner was served as late as 11p.m". (F18bcz)

The narration was of how the day was spent in physical labour taking care of the farm and its produce by means of all the family members. The family returned late from the farm and again the meals were prepared in a laborious way and served late.

A picture of the representation of past landscapes is out below as it emerges from the data.

i. Rural way of life

The mode of transportation was foot and bicycles

> *"The commonest means of transport then was the canoe (for those in riverine/coastal areas) and bicycle. The bikes came later, followed by the cars". (M17bcz)*

The children swam and washed in the streams and when they travelled out of the village they looked forward to coming back for a good wash and swim. This expresses the serene nature then, as compared with the town.

> *"I miss the streams from back then. Wherever you were, you would like to come back to revel in the streams and recall the days. I was in Lagos, but I longed for the streams of my village, so during the festive seasons, I always yearned to return to swim. The, children swam and shouted in the rivers, naked and all. Today, you can't even be bold enough to go swim, because many are afraid and will wonder if you are mad trying to expose your body. In fact, you hardly see anyone there these days"*. (F18bcz)

ii. Landscape management

There was a system of maintenance for the roads and paths in the rural areas which involved everyone who lived in the community. (Figure 7.4)

FIGURE 7.4: WELL-MAINTAINED TRADITIONAL LANDSCAPE

SOURCE: FIELDWORK 2013

Each age group was assigned a duty and the youth did most of the road clearing as explained below

> *"In my father's place, the roads were all bush paths. The village council decided that the village people would come out every Saturday to sweep and weed the paths (so far you lived there, even if you were a foreigner) and make them clean".* (F19biz)

iii. Minimum Emphasis on education

Few people had formal education but with those who had been to school found that obtaining a job was not difficult as employers lined up to pick you even after primary education.

> *"Those days, getting a job was not an issue, because immediately you finished school (Class Six) some people would be waiting for your services – the police, army, UAC, GPO and many others would show up to interview you. I was interested in the army, but I could not go in because of the war. This was in '65,'66. (M17bcz)*

b) Landscapes of communal social life in the evenings

The evenings were characterised with drinking of palm wine in large huts mostly by the men but occasionally the women also participated, as reported below. So the huts for this function were built on the communal spaces.

> *"In the evenings in the village, people men, especially would gather in large huts built with zinc, to drink palm wine. Some people did not like cold palm wine, so they boiled theirs and drank it like tea. These*

gatherings were supposed to be for everyone, but the women did not like to come out. But my great-grand-mother was an exception; she used to sit with my father and his friends to drink and chat". (F18bcz)

The evening activities were for all. One of the significant functions was that of the children of the five villages, which comprised the Itiam Etoi community coming out to play by moonlight. They played together and made friends as explained below.

That is when we, the children, would come out to play in the moonlight. In my mother's locality, there were five villages and the boys and girls would play together and make friends (F19biz)

The economic activities of the past landscapes also took place outdoors in the evenings too and there was a market place in every village (Figure 7.5). The larger one that operated during the day served many villages and had its market days.

"The markets were not too busy, but they opened up every evening. There was one in almost every village. Then, there were big one which sold from morning to evening. These types still exist today". (F18bcz)

FIGURE 7.5: TYPICAL MARKET PLACE IN THE TRADITIONAL RURAL LANDSCAPE TYPES

Source: Fieldwork 2013

7.4.3 The description of the current rural Landscape

One of the findings explained in section 7.3 above was the spectrum of landscape types ranging from the traditional rural to the substantially

modernised. The different characteristics of the three landscape types for the community without oil and gas exploration activities is set out below:

a) Traditional rural landscapes

The data indicates the presence of community landscapes still in their traditional stage. Such villages, which the study called 'Traditional landscapes' and coded as 'x' have been described by participants in various ways to capture the existing traditional nature using its natural geographic condition, small population size, farming, location, friendly and tranquil environments and others characteristics as extracted from narrations thus:

i. Population size and occupation

This has been summarised below by a male youth respondent:

> *"The population of the geographical area may be about 500,000 and the people predominantly make a living from the processing of palm fruit and from farming". (Ym3cix)*

ii. Natural Physical geographic condition

In another description the traditional landscape is presented in its natural physical condition for emphasis, when compared to urban areas.

> *"My locality has vast forests. When in towns, you hear about forests, but in my community, you see forests and the animals in them. My culture manifests itself in my community, unlike towns where people of different cultures meet and rub off on one another. Masquerades (ekpo), council of elders, the exuberant youths who take care of the clearing the paths and other general work in the community, are some of the things which I consider wonderful about my village".* (Ym6cix**)**

iii. Rural nature of the environment

The rural environment and nature of the landscape is also represented in the description of another village.

> *"The first sight you behold in my village is that of children, some under-age, riding bicycles around the place. The atmosphere in my village is friendly and the air is natural". (*Ym3cix)
>
> *"My village is very much local and is still hooked to the life of former times". (*Ym4cix)

The social landscape is tranquil with songs and traditional meals and family.

> *"There are songs which we sing freely in the village. On arrival at the village, my mother sings out loud, so does my grand-mother. My grandmother prepares a very tasty soup with ekpan kuko, afang and mkpa fere fere (some people call it Ukazi)". (Ym7cix)*

The responses also suggest a traditional landscape through the materials used for construction.

> *"The buildings are, most of all, mud houses. The cement and concrete houses are fewer and hotter". (Ym3cix)*

iv. Tranquil and serene Environment

The happy way of life in a traditional landscape is also noted in responses provided by the youths.

> *"I chase squirrels in my village (not to eat, but for fun) and do things which would have been funny in the town. I have access to almost everything I need".* (Ym7cix)
>
> *"When the weather is cooler, the people come to play… Someone comes up with a song or a tale to make everyone happy".* (Ym3cix)

The 'serene environment' of the traditional landscape, though lacking in basic modern infrastructure is captured in another narration;

> *"There is serenity in my village, an air of politeness. The majority of the houses are still made of thatch and mud, and the roads in general are not tarred. The drainage is poor and so is the water provision". (*Ym4cix)

In all the responses, traditional landscapes could still be seen to possess their rural nature by being away (remote) from urban areas and minimum contact with modern ways.

b) Transition Landscapes (undergoing modernisation)

The second group of responses are of landscapes that are in transition from the traditional to some measure of modernisation. Respondents from these landscape types present the changes in the landscape, primarily in terms of the presence of roads and drainage, population influx due to cottage industries for food processing, timber mills and trading with neighbouring communities. Examples of narrations of these human and landscape interactions encouraging the characteristics of the transition landscapes are presented:

- Presence of roads and drainage

The following responses refer to the presence of a number of basic infrastructures, for instance roads and drainage, making the community landscape here different from that of the traditional landscape:

> *"I am from Nsit-Ubium local government area, in Uyo Central District. My community is different from others in terms of road construction. This is because, if you go to other communities, the roads are not constructed (maybe, because of the political season or what is going on) but when you come to my local government, you will see that the roads are tarred, and that we boast of good drainage system and so many things". (Ym1biy)*
>
> *"We also have a major road, the East-West Road, which passes from Rivers State to Calabar[28], I think. This road divides the community, making it to be located along the road". (Ym8ciy)*
>
> *"If you come to Nsit-Ubium, we have the wherewithal. In all, what I have come to see is that in my village, road construction is the best". (Ym1biy)*

The presence of roads and drainage here is celebrated as a sign of positive development and good governance, and for this reason an upgrade to the status of community.

- Landscapes of cottage industries and timber mills

The transition landscapes are not only rich in farm produce but also in processing of produce through the presence of cottage industries as well. They

[28] River State is a state in Nigeria. Calabar is the state's capital. It shares a boundary with the case study area.

also undertake the local mining of mineral deposit as expressed in the following responses:

> *"Nsit-Ubium is rich in maize, cassava, groundnuts and other crops. In Nsit Ubium, a signpost welcomes you. The topographical map (indicating all the features on-land) further tells you that the production of these things takes place inside Nsit Ubium". (Ym1biy)*

Timber is also found in the swampy areas and is sold to neighbouring communities. Furthermore, income is generated from felling trees for timber.

- Trading of produce outside the community

The respondents reveal a sense of pride in the community's ability to trade with neighbouring states and communities.

> *"The people depend on farming and oil production, and the planting of economic trees like cocoa, rubber and oil palm. These products are processed in such large quantities that the neighbouring villages come to buy off some". (Ym4ciy)*

> *"In my community, we have ponds, streams and rivers. The community is bounded by the Imo River which divides Akwa Ibom and Rivers State. We also have palm trees which account for palm fruit and* the palm oil. *We also have palm kernel, which generate income for the people. We have raffia tree, whose leaves are used for roofing. Some people also tap wine from these raffia trees. We also have timber in the swampy areas, which differentiated this place from others. This timber is processed and sold to people outside the immediate community". (Ym1biy)*

The responses suggest a landscape that is celebrated and bubbling with activities. It comprises some basic infrastructure and technology has been introduced to lessen the hard labour (Figure 7.6).

FIGURE 7.6: TRANSITION LANDSCAPE TYPE

Above: Basic infrastructure, such as electricity and roads
Below: Spiritual and educational institutions and modern buildings in landscapes
Source: Fieldwork 2013

- Presence of educational and spiritual institutions

The presence of roads and some basic infrastructure further attracts other functions not related to farming and production but to the social functioning of the community. Hence, the transition landscapes attract schools and churches of different denominations (see also Figure 7.5).

> *"We have primary and secondary schools, as well as different denomination of churches (Methodist, Apostolic, private fellowships, Brother of the Cross and Star, Redeemed Christian Ministry, Deeper Life, Assembly of God, and many others". (Ym8ciy)*

The influx of people whose primary functions were not related to farming or food production have resulted in various impacts on the landscape.

c) Modernising Landscapes (substantially modernised)

The third group of landscapes in this community are those that have been substantially modernised and where the rural environment has disappeared. The respondents from these communities describe them as landscapes that have completely lost their traditional characteristics because of changes

introduced as a result of the new political structure and therefore, governance (see figure 7.7).

FIGURE 7.7: MODERNISING LANDSCAPE TYPES

Above: Presence of roads and modern structures, and layout
Middle: Gentrification of rural areas
Source: Fieldwork 2013

The population has changed, technology and substantial infrastructure has been introduced, while vast amounts of land have been lost to road construction and infrastructure to support the urban areas in close proximity to it. Most of these types of landscapes are close to the state or local government headquarters. These are all as a result of modernisation and its associated drivers of landscape change, as explained in the responses that follow.

> *"This is Itiam Etoi, made up of four villages. This village stretches from here to the Uyo High School. This street is Edo Mekai, where a traditional market sells every day. There is a village square, here in Itiam Etoi, where meetings are called, just like in the past. It is a tradition, which has been passed down, though some places have transformed their village squares into town halls. In those days, the squares were used for watching masquerades, but it is strictly for social gatherings and meetings". (F11biz)*

FIGURE 7.8: MARKET AND MODERNISED VILLAGE SQUARE IN ETIAM ETOI

Source: Fieldwork 2013

i. Disappearing rural environments and the replacement of native systems through modernisation

Modernisation has not only changed the landscape, but has affected the culture. The mode of dressing and everything is immensely different to what it was in the 50s and 60s.

> *"Modernisation and development have changed village ways. The native systems have been replaced by Local Government and so all has changed. Even the mode of dressing has changed in the village. Everything is now modernised"*.
>
> *The things which happened in my time, in the early '50s and '60s don't happen anymore, because the creation of local governments has changed everything. With the coming of politics, even the village women have changed. If you go to the village, you will see well dressed women in their Ankara [29] and other traditional clothes, with well-made hair and appearances. In the early '60s and '50s, it was not so. It was a real rural setting which is now missing". (F19biz)*

The rural system of governance and the traditional character of environment have disappeared and been replaced with a modern political structure made of local governments.

[29] Ankara a modern piece of cotton textile in various patterns and shades used for tops and wrappers by women in Africa

ii. Modern mode of building construction structures of cement and sand blocks

The introduction of roads has also transformed the population's tastes and values. Modern structures and modes of construction have been introduced and those of the past have all disappeared, as the respondents reported

> *"For one, those types of houses are no more, unless you go into the interior. The roads have changed and so have the people". (F18bcz)*

> *"So, the civilisation penetrates down below. In our area here, I do not really see any rural area around here as it used to be in those days. All the places are kind of developed, except where the council members have kept all the money to themselves". (F19biz)*

The buildings in these landscape types are now all constructed of cement sand blocks (Figure 7.8).

iii. Farms were not affected by oil and gas exploration

Several of the villages were affected by the search for oil and gas deposits; however when oil and gas were not discovered in commercial quantities, the test sites were abandoned and the farms were not affected.

> *"Yes, they came and explored and left, locking up the oil wells. That was in 1956, the first time we saw the oil people…It never affected the farms". (M17bcz)*

> *"It broke down houses. Now, they have pipes which pass through rock into the grounds, but then they used detonators and dynamite late at night. When they blasted the rocks, the houses collapsed and people ran. But they compensated by rebuilding them". (M17bcz)*

This group of landscapes also escaped oil and gas exploration activities and for this reason their driver of landscape change was not the exploration activity.

7.5 Theme 2: Process Model

This second theme guides the understanding of the production of the landscape types as they are modernised. According to Palang *et al.* (2000) landscape change can be determined in several ways and landscape is said to have many elements, whose overall change is more than the sum of the components changes. Changes

in the components only become meaningful when viewed in the context of the whole landscape.

The aim of the questions under the process model has been explained in Chapter 6; it is in order to establish how the landscape works. This includes the interactions[30] between the local spatial assemblages of landscape elements. Understanding these processes could also assist in the evaluation of how some changes if introduced, could be integrated into an existing land-use configuration. It could also improve the spatial configuration of an existing landscape based on established goals (Hersperger, 2006).

An interesting finding pertaining to this study is how all the landscapes types in this community without oil and gas exploration have evolved from the traditional landscapes and are gradually progressing to modernisation and towards urbanisation. The production of the landscapes and their driving forces became more visible when the entire landscape was viewed in three parts: material, non-material features and underlying processes that influence these features as suggested in Palang *et al.* (2000, p. 92). The findings emerging from the strong interactions between the structures/elements introduced into the landscape and several prevailing social developments regarding the period suggest that the processes within all the landscape types could be explained through the influence of

i. Governance and policy forces on the cultural landscape
ii. Predominantly the predisposition of the youths

Thus, again supporting Palang et al. (2000) in the identification of culture, prevailing attitude in society and policy as determinants of the degree of change. The two drivers above have a sustained impact on the production of the landscapes of these communities without oil and gas exploration activities.

The initiation of the landscape changes in traditional landscapes was the creation of a new state known as Akwa Ibom in 1987. This gave the location more local governments and greater autonomy; hence, bringing governance closer to the people. This was then further enhanced by the new democratic dispensation of

[30] Interaction amongst landscape elements according to Hersperger (2006) could be amongst ecological flows or the movement of animals, plants and people.

1999 whereby politicians were elected from the locality thereby bringing modern developments to the constituencies that elected them. Combined with society's zeal for acquiring education, the creation of the new state and the new democratic dispensation suggests the evolutions of the landscape types in ways explained below.

7.5.1 Transitional landscapes resulting from basic infrastructure

The influence of the political forces as a result of the new democratic dispensation therefore influenced the swift introduction of basic infrastructure, principally roads into the landscapes. The accessibility provided opportunities for cottage industries, which accelerated production and lessened the burden of the intensive manual day labour. Preceding this however was the predisposition of the people to education. These enabled the youths to travel outside the community and not only to acquire education but to be exposed to modernisation and the impacts of machines and technology in reducing hard labour.

a) Education and change in demographic profile

Education led the landscape change in a subtle way and the often long distance travels outside the community to acquire it. See below;

> *"A whole lot migrate. For instance, the young people have no institution of higher learning in the local government, so for one to acquire such an education, he or she has to leave the area". (F22aiy)*
>
> *"I want to point out back in the years when our parents were in the village, in terms of agricultural production. You don't have to compare those years with the present system. I believe that most of our youths want to be self-employed. Others want [sic] to go into production, while some want to go to school. You can see that in politics, if you don't have Standard Six, you cannot be a counsellor. If you want to go into House of Assembly, without your B.Sc., you can't contest, and most of these youths want to school. That is why they migrate continually, looking for something to do". (Ym4ciy)*

Education is also leading to changes in demographic profiles as youths not only detest farming with hard labour, as was done in the olden days but are losing interest in it to vocational jobs. Consequently, responses indicated acquisition of other skills by youths as an alternative means of livelihood.

> *"People have to move around to harvest the cocoa pods and they have to preserve it, as they harvest it in large quantities, which involves drying it.*

This would have been reduced through mechanised methods, encouraging people to stay. Most of the youths do not want to be involved in such extensive labour, so they have to migrate". (Ym4ciy)

"Also, some people have to leave the village to learn vocations. Besides carpentry, tailoring and a few others, many more are not there. Take mechanics, for example: there are no mechanic workshops, so the people who are interested in that vocation have to leave to learn the vocation in neighbouring cities and towns". (Ym8ciy)

b) Infrastructure, cottage industries and Migration of rural youths

They role of infrastructure, such as roads in the establishment of cottage industries is reflected in various ways in the responses. Any neighbouring community with good access by road attract the youths who relocate.

"Not necessarily. That is just one aspect of the reason why youths leave the village. The last time, I pointed out one aspect: we don't really have much to do, we have no industries. If we have an industry for which labour is being employed – most of these things we have talked about require mechanised labour, but in the absence of machines, manual labour is employed. But most of these people are not comfortable, so they have to leave". (Ym4ciy)

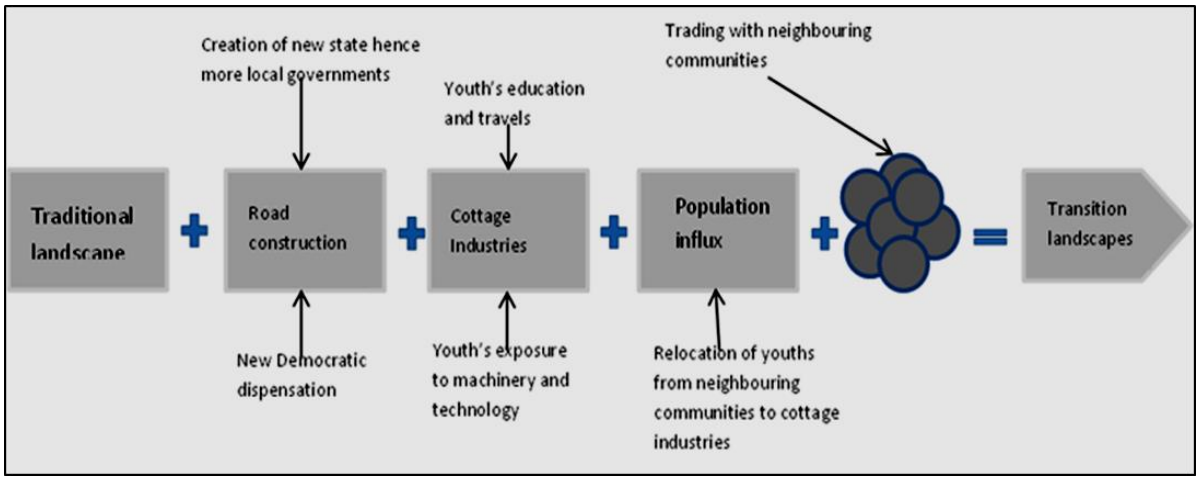

FIGURE 7.9: DRIVERS OF CHANGE IN TRANSITION RURAL LANDSCAPES

c) Trading with neighbouring communities

The cottage industries attract farm produce for processing from neighbouring communities that lack such facilities. The youths also return to their traditional communities to collect farm produce for processing in the transition landscapes; thus, assisting their families in generating more income and in disposing of the farm produce. During these travels to and fro, other goods are bought or sold. These thereby encourage the exchange of goods and services in the transition communities. The landscapes of the transition communities appear to have basically homogenous cultures and additionally, with better basic infrastructure attracts a population influx (See figure 7. 9).

7.5.2 Modernised rural landscapes

The third group of landscape types identified by the research and labelled as 'modernised' landscapes appear to have evolved as a result of their proximity to urban areas and seats of power. Therefore, these are predominantly landscapes of communities that share boundaries with Uyo which is the state capital and the two senatorial district headquarters; Eket and Ikot Ekepene. The drivers of change are:

a) Land lost to government for infrastructure, in-migrants and other services

The government acquires extensive parcels of land for the provision of infrastructure. According to the response below, part of the respondent's backyard garden was cut off by government to construct roads. It was the part of the household landscape used for different vegetables and plants for daily meals and also where other small scale farming activities, such as a bee farm was being undertaken for additional income.

> *"Some time ago, the government wanted to construct a road, so they cut a part of our backyard, where we rear snails and have different vegetables like Afang, Atama*31*, plantains, bananas, Kolanut*32*, pear (ube) and others. We also drill the oil out of palm oil right here, so it is a small farmstead behind the house. I had a bee farm, but not anymore. I stopped after my retirement. I make mine, sell some, and I make some fortune out of the whole thing". (M17bcz)*

[31] Afang and Atama are local vegetables used in cooking local soups

[32] Kolanut has the scientific name… a produce celebrated for its symbolic uses at marriages, naming ceremonies and festivals.

FIGURE 7.10: A TYPICAL MODERN COMPOUND WITH TRADITIONAL LAYOUT OF BACKYARD GARDEN

Source: Fieldwork 2013

The traditional landscape here lost its character to the influx of in-migrants and foreigners who provide services to the urban centres. Due to land scarcity and the high cost of the urban land, they buy or acquire land to build houses in these communities bordering the urban area (Figure 7.11). This leads to the gentrification of both rural landscapes and farming communities (Heatherington, 2011).

> *"Time was when there used to be lands, but there is no more land in Itiam Etoi, because the lands have all been sold to foreigners to come build their houses and other things. All we can do now is to go deeper into the villages to establish ourselves and find more fertile lands to farm". (F12biz)*

FIGURE 7.11: MODERN LAYOUT AND HOUSES BELONGINGS TO IN-MIGRANTS

Source: Fieldwork 2013

> *"I'm not from here, but I believe that I belong here, because I've been here for some time. The visitors have taken up residence in the places here, especially visitors". (M13bcz)*

The landscape character thereby changed because of the impact of the heterogeneous mix. Even the indigenes who wish to continue farming had to go further into the hinterlands to do so, as is shown in the responses or those who could afford it and replicate the traditional layout of compounds in their new modern homes (Figure 7.10).

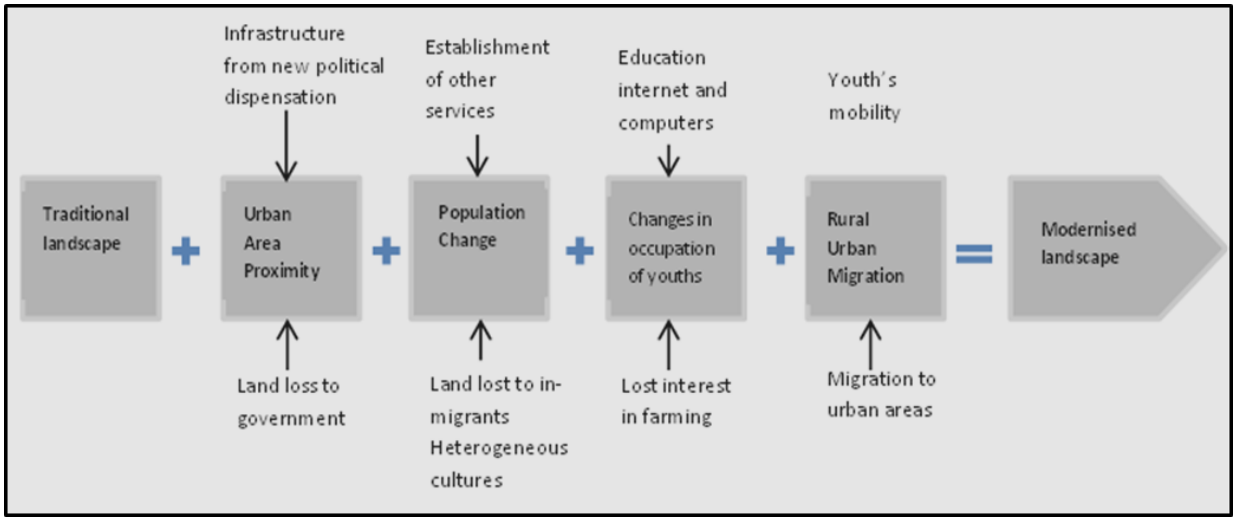

FIGURE 7.12: DRIVERS OF CHANGE IN MODERNISED RURAL LANDSCAPE

b) Changes in occupation and rural urban migration

The modernised landscapes are also being driven by an additional driver of landscape change, which is the changing occupation of the youth population as shown in figure 7.12. Farming is no longer the chosen means of livelihood for young people. When asked, the response from a youth still interested in farming was that farming would not give him the opportunity to own a home; therefore, to farm means he has to go to another village, which he we would rather not do.

> *"Not farming, exactly, for we must also build our own houses. If you go round Itiam, that Tropicana area, you will find out that outsiders and the government own most of the lands. So, going to another village is the only solution, no other". (*Ym8ciy*)*

Therefore, the youths are more interested in urban employment, such as those in the computer and internet services (IT and Media) or in its absence supporting services in the transport industry.

> *"But with the coming of computers and the level of technology in play, most youths might not want to go back to the village life, even if they have no option. Those days, our fathers used to sit under trees to chat, rest and amuse themselves, play drafts, have meetings and the youths gathered to say proverbs. But these days, all those things have been taken away – not by the government but by the times. But most times, we reminisce and recall what we did in the villages". (F12biz)*

These changes in occupation mean the additional elimination of farms and backyard farms in the landscape, and the erection of more residences and business centres to cater for the heterogeneous population and changing occupations. It is also encouraging urban sprawls, as land meant for farms or bushes, which have not been taken over by the government, are converted to residential areas and other land-use.

7.5.3 Summary of Emerging drivers of landscape change for communities without exploration activities

The drivers of landscape change in the community without oil and gas exploration activities are in relation to the

i. Infrastructure from new political dispensation,
ii. Youth education and travels,
iii. Population change and influx
iv. Commerce
v. Changes in occupation
vi. Rural urban migrations

The transformations from the traditional landscape types to the transition and modernised types appear to be strongly driven by the social factors around the impact of governance and control on the physical landscape and the predisposition of the youths, as shown in Figure 7.12.

7.6 Theme 3: Evaluation Model

The third theme is the evaluation of the landscape, as also explained in Chapter six. The aim is to establish if the landscape is working well. The research acknowledges the explanation on how landscapes are interpreted reflecting “the values and attitudes of the individual concerned…thus a capitalist evaluates in monetary terms, an artist in aesthetics terms, a scientist in ecological terms and a social activist in terms of disorder and injustice” (Muirr, 1999, p. 193)

As exploratory research, this study does not recommend a specific tool for evaluation per se. Following the questions on landscape representations and the processes with the landscape, the question regarding the evaluation is whether the landscape is working well. Therefore, the respondent was allowed to choose what

or how to be assessed, which is relevant to appropriate assessment**.** This has been deliberate to allow the evaluation to "*reflect the values and attitudes*" the respondents hold dear and would like to use to evaluate the landscape. The research finding has however noted that the respondents employ the functional approach in studying the landscape, seeing as they appear to centre their viewpoints on how the landscape is organised around culture and moreover means of livelihood, for instance cultivation.

According to Green and Vos (2001, p. 125) "methodologies reflect both the objectives and background of those undertaking them" hence, many landscape assessment techniques appear to be based on different conceptual approaches of the discipline of those studying the landscape. Again based on the four main research paradigms identified by Bruns and Green (2001), regarding the psychophysical, cognitive and experiential paradigms, the cognitive and experiential paradigms appear to have been employed by the respondents in this community.

The findings from research with the adult males and females reveal two dominant themes emerging from the evaluation. These are: disorder in the landscape and loss of landscape services. The older youths express their evaluation in terms of rural-urban migration caused by unemployment and lack of development, whereas the children by means of photo elicitation show pictures of unsecured, unkempt and unmanaged environments as places they did not like.

7.6.1 Landscape of disorder

The present transitional and modernised landscape types are described as disorderly, when compared to that of the past and traditional rural. The landscape of the past had management and was orderly unlike that of the present. The general evaluation of the present landscape by the adult respondents is not unexpected. Rogge et al. (2007) had similarly noted concerning the countryside, that most people have an expectation of a place for recreation and relaxation, peace, flourishing wildlife, and archaeological and historical sites.

> *"Today, they construct the roads and no one takes care of the roads and most of the people are those from their place. Today, all we have is disorder, as against those days. When we came and met them living their rural lives, they were much disciplined".* (F19biz)

The response above complains of how the road construction was not even undertaken by people from the locality but from elsewhere; thus, is of no economic benefit to the locals. The respondent further expresses the loss of the past rurality in the character of the present landscape.

Batomunkuev (2003), conveys a similar scenario in the written records of the legacy of the old Mongol, where he mentions that "however the cultural potential concealed in the legacy…. their lack of social functionality and productivity would severely constrain the social order of the traditional society…" (Batomunkuev, 2003, p. 5).

The responses below argue that the rural communities of the modernising landscape types are economically not prepared to be enveloped by the sudden urbanisation. Consequently, they assist in creating the disorder by their rural ways or through the expression of their poverty, as seen in their choice of various building materials in their structures, or in their traditional laborious ways of preparing a meal.

> *"This picture is from Mkpok. It is a bathroom. Within that same vicinity is a house, but part of the building is cut off with planks and roofing sheets. I think this urbanisation (in terms of physical development) ran into rural area, but the people were not carried along economically, so their economic lot has not been touched: they are given modern facilities like roads, water and electricity….have come to them, but they (referring to the rural people) do not quite understand where they are". (M20aiy)*

> *"Even in heavily supposedly 'urbanised' areas, there are fragments which are proof of rural life".*
>
> *"You still see women preparing fufu[33] for the market. That is not an urban lifestyle. The people are still trying to live a rural life". (M20aiy)*

[33] Fufu is a local meal prepared by pounding boiled cassava with a pestle stick made from wood and a mortar made from large tree trunks.

FIGURE 7.13: GENTRIFICATION (IN-MIGRANT DWELLINGS AND INDIGENES' IN THE MODERNISED LANDSCAPE TYPES)

Source: Fieldwork 2013

The discontentment with the present fast modernising landscape type is observed by a respondent to be breeding tension and brings to mind this expression related to "*the feeling of a whole world, both morally and physically, … detached from its old stand fasts and set in rapid motion" (Marx, 1956, p. 32).*

> *"Many non-indigenes have put up urban structures, but the locals still have these rural homesteads. It is a complete overlap. Non-indigenes come, put up magnificent structures (two or more), while the locals still have their rural homestead. Also, many of these compounds are fenced; having boreholes inside, but some of their owners won't let locals into their compounds to fetch water. This class distinction is bringing a lot of tension".* (M15biz)

The response is saying that non-indigenes have modern buildings with conveniences, for example boreholes complementing the new layout of infrastructure, whilst the indigenes reside in their rural homesteads within the same modernising landscape types (Figure 7.13).

a) Absence of development control

It appears the loss of development control is a present aspect not experienced in the past. A response suggests that even at the village council permission to erect structures are granted and that could probably explain the apparent lack of planning, given that the council is only meant to be an advisory group of elders.

> *"It is of recent that they have no planning. You go to the village council and say you are looking for a place to build a house and they just give you permission. People build houses anyhow, without planning". (F19biz)*

It is implied here that planning approval should be given by an approved government agency not the village council. It is also recommended here that the rural areas in the past had some sort of development control.

b) Lack of development in the rural areas

The slogan of the government as at the time of this research was of '*uncommon transformation'*. The response below accuses the transformation of having nothing to do with the rural areas but only with the State capital and local government headquarters.

> *"The transformation the government is doing is just garnishing of the townships, the state capitals and local government headquarters. But if you go deep into the interior, you will wonder if you are in a 'state of uncommon transformation'. The people are suffering badly. If they have a choice, they will leave, but they do not, so they keep staying there". (F18bcz)*

The response indicates that the rural areas are in dire need of development and that if people had the choice to relocate elsewhere, they would.

c) Poor landscape management and indiscipline

Rural people blame the present lack of order and indiscipline in society to the new *literate* and *civilised* ways. The home was more disciplined and functioned better in the past by the rural and illiterate women than it is now, and the landscapes were better managed, as there were routines and roles for different age groups in the communities.

"I met the rural women and I had to depend on them for a lot of things. They had to teach me that this was this and this was that. Most of them were my leaders and teachers. I did not find them rural, rather they were not educated and it did not make much difference. They always said that before we, the educated ones, came, society used to be properly run. These 'illiterate' women were the ones who used to run the home, keep society together and raise the children who were not as undisciplined as the children of today (who know everything), so when the elders talk to them they take advice. Because of this, the village community was more disciplined and honest than it is now". (F19biz)

d) Loss of social life

There are visible changes with regards to social interactions. Technologies, such as radios mean people listen to world news, while those without are left on their own. The response below suggests that boredom creates loneliness for those without a radio.

> *"Some people can afford transistor radios or world receivers to listen to world news, while others still sit around to discuss in the evenings. I think it is now boring and lonesome". (F18bcz)*

A further response below is saying that what was lost to the modernising landscapes were the structures and not the people. Hence, the people have been left to adopt new modern ways in the absence of their lost heritage. This person gave the example of the youths' present obsession with the English Premier League, as an outlet for the loss of the village square where they played football at weekends with oranges as footballs and the younger youths played by the moonlight.

> *"I was in the rural areas recently and I know what it looks like. One major thing in Ukwa community was the village square, but it has lost its glory. Where Ukwa Road is was once the village square, where the boys played games during the weekends and the children played under the moonlight. The people are not lost, only the structures are. The people are trying to look for something else to occupy them through the sudden shift in watching the English Premier League, not even Nigerian games. The normal, rural football, using oranges isn't played anymore". (M20aiy)*

The respondent explained further that it was the rural landscape not the rural people that has been lost to modernisation and insists that the people are still rural economically.

> *"Up Udua Road, there used to be a stream, but it is not there anymore. In its place is a huge culvert silted with polythene materials. We used to go have our baths, catch fishes and just go feel a sense of nature. It is the glaring difference between us then and you now. The rural life is being eroded – in terms of landscape, in terms of economy, the people are still living". (M20aiy)*

7.6.2 Loss of supporting services and functions

It therefore follows that having lost the rural landscape, supporting services and functions are equally lost. A male respondent deplored the state of the modernising landscape type and used photos to show how rural structures are meshed with urban infrastructure, and how buildings that belong to the past are seen in the midst of 21st century landscapes. He concluded that the people in the modernising landscapes are mentally urban but conditions of poverty and deprivation have

made them economically rural (See below his response and the responses of two others on the loss of wildlife and poor soils).

> *"There is a kiosk along a tarred road. It is a structure supposedly meant to be in utter rural areas, but it is standing beside a road constructed by the government a year ago. Their house is thatched; a thing which belongs in the past, but here it is right in the middle of a 21st century road. The family of eight who live here have a television, showing that they are mentally urban, but their condition has made them economically rural. Before now, the main source of getting the thatch is Ibeno, but the palm which provides all that is gone with the rest of the forests. To a large extent, they too have no village square". (M20aiy)*

i. Loss of wildlife

> *"The bushes of today do not support them. But back then, we had antelopes, different types of monkeys, squirrels and the likes near the river banks. Today, if you stand near the river bank, you can't even see a single one. They were known to be seen in* droves*, chattering and making a lot of noise". (M17bcz)*

ii. Poor Soil

> *"Back then farms seemed to be doing very well, but today, the soils hardly do well, because they have been polluted"*. (M17bcv)

7.6.3 Rural urban migration

A community elder and leader, M28aiz from the modernising landscape types observed that the State had lots of untapped potential, in terms of resources to be harnessed but for lack of access. He pointed that out as a reason for "*sending the youths away from the rural areas to the urban or modernising landscapes".*

The response below lamented the neglect of the waterfall that could have been developed into a tourist attraction. Furthermore, he gave the condition that only new structures and change without uprooting the original landscape, would make him return to live in the village. The sudden change of original landscapes has been recorded in the literature as one prominent issue that saddened past societies. The extract below is an example.

> *"Henry Adams compressed the essential feeling into his account of the way "he and his eighteenth century . . . were suddenly cut apart-separated forever ...by the rail-road, steamship, and telegraph.' It is the suddenness*

and finality of change…the recent past all at once a green colonial memory" (Marx, 1956, p. 30)

The youths appear to be in favour of conveniences and infrastructure, whilst maintaining the original landscape setting.

> *"In my village, for instance, there is a particular waterfall used for drinking and bathing. But with the coming of boreholes, it has been overtaken by weeds. It was a sight to behold, a beautiful thing, until it was forsaken. But, if it can be returned to its original state, it can become a tourist's delight".* Ym5Acix

> *Question: Would you like to move back to your village, maybe, after graduation?*

> *Answer: "Yes, provided I can put up new structures of development without tampering with the whole set-up. People can then come around and see new things. Only change can make me move back"*.

7.6.4 Insecure and unmanaged Environment

The data from the photo elicitation interview with the younger youths and children appear to indicate a more detailed evaluation of the landscape features although not necessarily in terms of its cultural aspect. This appears similar to findings in relation to studies with children and the local landscape in Roe (2006), where it is noted that there was a high "level of environmental awareness and creative thinking" among the children and also the strong "interpretation of the environment" (Roe, 2006, p. 176). The children in the community without oil and gas exploration activity are more detailed in indicating the features of the physical landscape that require improvement or better management. The children abhor abandoned structures for the fear of what lies hidden in them and for their ugliness. They complain of potholes in roads, not just for being unsightly and dangerous, but also for splashing water on passers-by. The children pointed to areas on the landscape with health and environmental aesthetics issues. They did not specifically refer to cultural reasons in their responses; however, they appear to evaluate locations where they able to be with family and able to play with friends. The younger youths

and children in these landscape types appear to value landscapes that would make them feel secure and free and not vulnerable in any way.

Find below examples of responses and photos from the photo elicitation interview.

> *"When you are driving past, the car splashes water on people, so I want the road to be tarred and the place to be beautified, so that people can pass here to anyplace. But I take this other way (indicates another route) to school"*. (Yf9aiz)

Examples of responses and photos from the photo elicitation interviews with the children are set out in the following photos:

FIGURE 7.14: PHOTOGRAPHS BY THE CHILDREN PARTICIPANTS

Top left: "*a market place with so much refuse. It can cause flooding" (Yf33aiz)*

Top right: "*a bad road, which the government should look into" (Ym30aiz)*

Bottom left: "*a market shed which could be better if government provides shed" (Yf35aiz)*

Bottom right: "a dilapidated school, where children can get hurt while learning" (Yf31aiz)

7.7 Theme 4: Change Model

According to Steinitz (1990b), questions concerning the change model attempt to identify what actions might modify the current landscape, where and when, and if the change could result from current trends in landscape change, or from a completely new action or theory.

It is therefore not surprising that this community has diverse change drivers for their future landscapes. These change drivers range from those of landscape functionality and contents to others of demography and variety? (p164). Rogge et al. (2007) cited various research that indicates that 'regardless of the target group the content of the scene has an equally important influence on landscape' (Rogge et al., 2007, p. 160).

There appears to be multiple cultures on landscapes if viewed from different demographic groups or generations, or even different social classes or ethnicities.

7.7.1 Focus issues on landscape visions amongst demographic groupings

The responses from this community demonstrates similarity with those of the community with the exploration activity in Chapter Six, in terms of a focus on issues of landscape with respect to demographic groupings. However, what actions might change the landscape appears different regarding the three landscape types in this community landscape. Hence, the responses to what actions might change the landscape is different for the three landscape types; the responses are presented according to landscape types. The findings too suggests that in general "*the question is not how to protect the rural from the urban but how to manage the new urbanisation….landscapes contain a wide variety of cultural elements and environments" (Jerpåsen and Tveit, 2014, p. 435).*

7.7.2 Change drivers by landscape types

The change drivers for each of the three landscape types in community 'A' without oil and gas exploration activity is presented below.

a) Traditional rural type

i. Farming

The most often repeated change driver for future landscape of the traditional rural landscape type is modernisation of farming for a greater yield and less labour. This is repeatedly echoed in the responses of all the adults and youths. They argue that it will enhance the development of the rural economy and consequently its social fabric. The two responses below mention how future social change must recognise the role of agriculture and how for any social interaction should be meaningful for the rural women, including even that connected with the church, a visit to their farms was essential.

> *"Social changes in the future should recognize the role of farming as farming is not just a rural thing". (F19biz)*
>
> *"Sometimes we have to visit the churches in the village and it is the rural women we go to meet. We have to interact with them. When you have a relationship with them (my husband's sisters are among them), you have to visit the farms with them and help them do a few things. I met a few old ones among them, some older than my own mother" (F19biz)*

Agriculture is a dominant change driver because when it is lost, a sense of vulnerability exists in relation to the rural landscape and its community. As shown in the response below.

> *"They can't go back to the farms in the village, because the soil is so bad. But since my childhood, I have always heard that government invested in fertilizer, but we never see it. More so, our people do not have faith in fertilizer, because they believe that the crops/foods grown from fertilisers are not nutritious to the body".*
>
> *"Most of the farms have to be left for about six to seven years, before the farmers return to them, so that it can regain its natural fertility. But that was then. Now, the farms are still there, but they don't amount to anything". F18bcz)*

In the responses, an adult female explains the difficulties in returning to the village when the farms do not yield crops, sometimes even after six years of lying fallow. This a traditional way of allowing the soil to regain its nutrients as there appears to be a visible lack of trust with the use of fertilisers.

ii. Employment and structural improvement of the rural landscape

The communities in the traditional landscape types want employment and an improved landscape as driver of change, in order to curb rural urban migration by the youths.

> *"I like the way it is presently, but the thing I desire is for it (landscape) to be improved". Ym5Acix*
>
> *"What would I like to change about my village, to make it better? One of the major aspects I would like to change is the issue of youth unemployment. This unemployment has given rise to emigration. The village is usually packed during festive seasons, but come January/February, the village empties again, because these young people have to go back to the places to where they make a living". Ym4Acix*
>
> *"Furthermore, we can use a slogan that will embody all the deep transformation. In my dialect, we say 'uprooting the root and clearing the soil'. We say 'arung arung, adio isong".* (F18bcz)

The data illustrates a yearning by adults and older youths for this landscape type and for wellbeing and the transformation of the rural landscape so as to curb migration. The youths appear to suggest their willingness to remain in the village, if some form of employment exists besides farming. One respondent below mentions that he returned to the village because land was cheap so he has a farm and a house and the environment was quiet and neat.

> *"I have a farm to which I pay attention very well. These trees – banana, pear, mango and the rest of them are medicinal and economic and can be used for anything. Some of their barks are quite medicinal…the environment is so quiet. Land was cheap, so I decided to come and stay here". (Ym23bix)*

In addition, to improve the rural landscape and the community's wellbeing he suggested roads and cottage industries too.

> *"We need a tarred road passing through this place. When this road passes, people can settle in. We also need companies, like construction or processing companies. There are small establishments like poultry and others". (Ym23bix)*

The Aluminium Smelting Company of Nigeria (ALSCON) located in Ikot Abasi is the largest aluminium smelting plant in Africa and is close to one of these communities; thus one youth's vision for the future landscape of his community is

to take advantage of its proximity and provide supporting industries to ALSCON. He said;

To improve my community for the future, I can see that the place will become an industrial area (seeing as it is close to ALSCON). So, I will bring more companies to utilise the aluminium, and turn them into zinc sheets and other things. This done, the people will stay and work in these places. (Ym6ix)

iii. Education for the youth and children

The community is aware of the importance of education and has noted the remarkable difference it can make to the future of their children and hence landscapes; emphasis is not only on farming but education as well. The days when agriculture was solely expected to supply food and industrial crops are gone (Rogge *et al.*, 2007, p. 159). This has been echoed in the response of a female community leader below;

> *"I was brought up by my grandmother in the village, so all the lands which my husband left uncultivated, I have to cultivate them. Farming is not for rural people, it is for everyone. The only difference is that the rural woman then did not have the opportunity to get some education". (F19biz)*

The woman leader is educated and also goes to the village to farm her husband's uncultivated land.

b) Transition rural landscapes

In terms of the content of the three landscape types of the community without oil and gas exploration activities, the transition rural landscape appears the closest to the communities' vision of a future landscape. If a number of improvement and management issues are taken care of, it represents what several responses suggest to be the rural idyll.

i. Structural improvements (Roads Infrastructure) and governance issues

In this landscape type, the data confirm the issues of concern to be with governance and structural improvements of the landscape, in terms of monitoring and management of landscape functions and overall development. The data indicates that roads are provided but are not maintained, unlike those in the traditional rural landscapes. The data is also suggesting effective and efficient

functioning of the local governments as strong and good change drivers for future landscapes. Provision of good roads is strongly associated with good governance, as expressed in the responses from F19biz.

> *"Landscape change depends on the local government and a good Local government should construct roads and provide good and working system of road management and maintenance as done in the rural settings of the past which worked better". (F19biz)*
>
> *"The physical changes depend on the local government. If there is a local government authority which knows what it is supposed to do, it will construct roads". (F19biz)*

Therefore, in this landscape, the concern appears to be that of management of the roads that have been constructed and not the absence of it. It implies maintenance and management of the landscape similar to that undertaken in the past, whereby different age groups had a role to play not only in its construction, but in its weekly and seasonal maintenance.

> *"Now, it is not like that. Today, they construct the roads and no one takes care of the roads and most of the people are those from their place". (F19biz)*

The absence of involvement of the community in the construction also appears to be a cause for concern. The transition rural landscape appears to be a landscape going through a phase of the urbanisation process. Through its change drivers it is exhibiting similarity with past urbanisation processes in Europe, where transport infrastructure defined the relationship between the city and the countryside. This accessibility has been identified by the community as extremely crucial for its growth and economical and spatial wellbeing (Antrop, 2004).

ii. Education and change in rural mentality

The data indicates the presence of schools in the landscape type. The bone of contention appears to be the quality of education being provided to the children and youth and some attitudinal or rural mentality change required from the adults, as presented in the responses below.

> *"Schooling is now free and compulsory, from primary to secondary levels, so the parents have no reason not to enrol their children in schools. Now,*

the Federal Government should help the State Government make the schools interesting and rich by stocking the libraries". F18bcz)

"The people need vigorous mental engineering, because many of them eat into their capital and within a few months, the money is gone. But some of them make it, despite the odds. Others believe that they must have some spiritual security for their money, so that the next-door trader does not out-smart them". (M20aiy)

The first response urges the government to see to the proper stocking of schools, while the second seeks an objective outlook on life by means of changes with regards to the financial and spiritual wellbeing of the adults.

c) Modernising rural landscapes

The description of the modernising landscapes concurs with that of Antrop (2004), where many new elements and structures are being superimposed on the traditional landscapes and consequently, they are becoming highly fragmented and losing their identity. The new landscapes are characterised by functional homogeneity (Antrop, 2004, p. 9) and "*the new forms of land use are not ecologically related any more with the land and the place*"(Antrop, 2004, p. 10).

The data explain that the respondents from this community are highly mobile. A demographic shift is taking place and communities are acquiring heterogeneous characteristics and so ways of the past are being compromised, even though responses indicate that much of the lost ways appear to be desired.

i. Control of rural-urban migration

The data suggests that the control of rural urban migration is a case for concern, seeing as the community is losing its land and people to the new urbanisation. The loss of its people is predominantly by way of two means, which are the lack of housing and unemployment, whereas land is lost through the gentrification of the rural landscapes and government policies.

Hence, political driving forces, unemployment and the issues of inadequate and inappropriate housing are major change drivers, as explained in the responses that follow below.

> *"This migration from the villages to the towns can be controlled if some estates are erected in the villages, so that people can remain there, since the roads are good now. In my village, there are people who work in Eket; when it is time for work, they have to start driving from there. They get to Eket in time and when work is over for the day, they drive back home". (F18bcz)*

ii. Housing and good road networks

The government is implored to provide housing estates within the villages to keep the people, principally the youths from migrating to urban areas. The response above from F18bcz acknowledges the presence of a good network of roads; thus making commuting to nearby urban areas, such as Eket easier. The response indicates that some people do commute daily to Eket to work. Accessibility according to Antrop (2004) is the most important factor in landscape change and can result in rural areas opening up to urbanisation and globalisation exponentially. These modernising rural landscapes are therefore gradually undergoing a process of change from their rural lifestyles to urban ones (Antrop, 2004) and so the communities of this landscape type want housing consisting of modern building materials, which is beyond their reach in terms of cost. They look to government to provide that as expressed by the response below.

> *"Not many of these people can erect their own houses, because of the high cost of building materials. We even need modern houses". (F18bcz)*

iii. Industries for youth employment and social learning for adults

The communities in this landscape type also believe that industries will be a good change driver for future landscapes, as it will provide employment for their youths and reduce the quest for the non-existent white collar jobs that take the youths away from their communities. The finding suggests the apparent importance of youth in maintaining cultural landscape continuity, in this landscape type; consequently, the clamour for gainful employment and to be appropriately housed within the community.

"We do not have industries in the rural areas or even in the towns; everyone wants to work in the Federal Secretariats. I look around and see young people, graduates driving tri-cycles and bikes just to make a living. All this, after suffering through school and the hard experiences, and he is coming back to go through it again". (F18bcz)

Several responses, for example the one above also indicate that the youths in this landscape type are fairly educated. This is probably because of their proximity to schools in the nearby urban areas but contrary to the community's high expectations in relation to the youths, unemployment and the absence of land to farm (modernised agriculture) which has driven them to menial jobs such as providing public transport through tricycles and motorcycles.

Social learning has been put forward as a change driver by the elders and leaders of the adult community group. They suggest that the adults should also be educated in investment, as most have lost the environment in which to apply the skills and appear not to be knowledgeable in ways related to the new phase setting in urbanisation.

"If you give any of the people in the rural areas money, all they think of is a new wife. The people were very good fishermen, oil palm processors, palm wine tappers and timber men". (M20aiy)

iv. Bottom-up participation in decision making

Communities in this landscape type believe in the democratisation of decision making and for this reason, bottom-up participation as a change driver for future landscapes. They are therefore canvassing for inclusiveness in decisions that affect them as a community. This has been well articulated in the response below by F19biz, who is also a member of an NGO.

"Provide education, carry them along in decision making so that they get best for their families and leaders who do not expect rewards for their services…I gave my car, my petrol and my time, just to ensure that my community is represented wherever we go and those who wish to join us are carried along". (F19biz)

v. Political driving forces of governance and quality leadership

The data suggests dissatisfaction with the leadership and governance of the modernising landscape types. It blames the present state of the landscape on the selfishness of the present generation of political leaders and how everything has been politicised. In addition, it explains in detail how it is different to the leadership of the past, pre 1990s, even though the landscapes were modernising.

> *"We are different from politicians; you serve the community, not out of selfishness, but for the sake of humanity". (F19biz)*

The data demonstrates how the political driving forces strongly deprive the communities of enjoying the benefits of the exploration activities as host communities. This assertion is in line with Hersperger and Bürgi (2010) who stress the contribution of individual political driving forces on landscape change.

> *"Government policies in the '90s caused the oil companies to be distant from the people, because the government decided that instead of dealing with the host communities, it would be better for the oil companies to deal with them directly. This is why communities like Obio and Okon are the way they are. I think if those oil companies had direct contact, they would have done something and the communities would not have been abandoned".*
>
> *"Back then, Eket used to be very clean. I don't know how they did it, but they paid some people stipends to clean up the town, and those people were grateful. Contracts for supplies of stationery and toiletries were awarded to people in the village and there was peace. The community was vibrant and progressive".*
>
> *"All of a sudden, they stopped and moved their people to Lagos, some to Uyo. Eket was abandoned".*
>
> *"However, we cannot blame them. The Federal Government is the one making them do it. When the government did not interfere, they were on good terms with the communities and the relationship was good". (F23aiz)*

The detail response above explained how the host communities and landscapes in Eket were benefiting from the multinational corporation by keeping the environment clean and engaging the people in supplies of items, for instance stationery, which made the people happy and the community '*vibrant and progressive'*. It traced the beginning of a strained relationship and degraded environment, as seen in Obio and Okon villages to the withdrawal of the services by the multinationals, due to a shift in policy by the government in the 1990s.

7.7.3 Summary of change drivers for future landscapes of Eket and environs

The data demonstrates that the respondents yearned for a total transformation of the rural landscape and way of living. An elder concluded their desires through a slogan that embraced the deep transformation required. He said;

> *"We can use a slogan that will embody all the deep transformation. In my dialect, we say 'uprooting the root and clearing the soil'. We say 'arung arung, adio isong' (M17bcz)*

The table 7.1 summarises what change drivers are suggested to constitute the communities' vision for future landscape and is presented according to landscape types. These will be examined in Chapter 8 in relation to their implications for future landscape planning

TABLE 7.1: LIST OF CHANGE DRIVERS BY LANDSCAPE TYPES FOR EKET AND ENVIRONS

	Traditional rural landscape type	Transition landscape types	Modernising rural landscape types
Change Drivers	i. Modernised Farming ii. Employment iii. Structural improvement iv. Education for youth	i. Roads and infrastructure ii. Education and change in rural mentality	i. Control of rural urban migration ii. Housing iii. good network of roads iv. Industries v. Bottom-up participation vi. Governance and quality leadership

Similarly breaking down the change drivers according to the five dimensions of sustainable landscapes shown by (Selman, 2008), reveals more emphasis on the

social dimensions by way of traditional rural landscapes than the economic and aesthetic/environment dimensions**.** Additionally, economic and aesthetic/environment had one each (Table 7.2)

TABLE 7.2: CHANGE DRIVERS TRANSLATED INTO DIMENSIONS OF SUSTAINABLE LANDSCAPES PRESENT BY LANDSCAPE TYPES

	Traditional rural landscape type	**Transition landscape types**	**Modernising rural landscape types**
Change Drivers in relation to dimensions of sustainable landscapes	i. Economic ii. Social iii. Environmental/ Aesthetic iv. Social	i. Environmental/ Aesthetics ii. Social	i. Social/Economic ii. Social iii. Environmental/ Aesthetic iv. Economic v. Political vi. Political

The responses may possibly suggest satisfaction with the economic dimension for now. While all the dimensions were present in the modernising landscapes, the most frequently mentioned change drivers were two each for the political, social and economic dimensions and one for environment/aesthetics. What these may suggest is discussed in Chapter Eight.

7.7.4 Chapter Summary

In order to make easy sense of the data on this community representing 30 local government areas without oil and gas exploration activity, additional information was added to the coded names. The chapter starts by identification of a code for anonymising the numerous and varied respondents. It appends letters a, b and c respectively to the three senatorial districts of the state and assigns one of the

letters to each respondents corresponding to his senatorial district. The respondents coded names further carries one of the letters x, y or z for the landscape type represented. These are in addition to the letters used to identify gender and community type used in the previous chapter.

The chapter identifies three landscape types in this community which are the traditional, transition and modernised as well as indicates the drivers of change that led to how the last two landscape types came about. The findings further illustrate the relation between changes in means of livelihood and changes in cultural landscapes. The desired future landscape change from the communities are summarised for each landscape type and translated into to social, economic, environmental, political and aesthetic dimensions as it relates to sustainable landscapes. These are carried forward to discussion in Chapter 8.

8 Chapter 8: Envisioning Future Landscapes

8.1 Introduction

This chapter discusses the communities' visions - which relates to the first research question and the implication of the research findings. The chapter develops the ideas generated by way of the research with the communities, and the articulation of their visions for future landscape change. This enables a conceptualisation of future more sustainable landscapes for the oil and gas Region and therefore, answer the second research question which asks:

How can these visions play a part in the sustainable landscape planning of the Niger Delta Region?

The chapter is presented in three parts:

a. The first part summarises and discusses principal findings from the research as guided by themes taken from the Steinitz Framework Model.
b. The second part attempts to theorise the findings based on the dimensions relating to sustainable landscape planning for the Niger Delta Region and theories and concepts identified in literature.
c. The last part of the chapter attempts to conceptualise the future landscape and discusses practical implications for sustainable landscape planning in the Region.

A summary of the challenges that led to this study is presented then, as with the analysis chapters, themes from the Framework Model are employed as headings.

8.2 Summary of major findings

8.2.1 Context: Natural Resources and Environmental Challenges

The Niger Delta Region is currently the only oil and gas exploration Region in Nigeria, (see Chapter Four). It consists of nine states administratively grouped together because of a common variable of oil and gas exploration activities. However, the research findings suggest that the case study communities view their landscape challenges beyond that of oil and gas exploration activities alone. Other community landscapes exist within the Niger Delta Region which do not have exploration activities but still have other landscape challenges. The findings

indicates the importance of the presence of political issues in the classification of the community territories. Findings also identify the presence of natural environmental challenges impacting upon the landscape. The research further points to the existence of different landscape types in the Region. These three findings pertaining to the research context are elaborated below:

a) Politics in the Classification of Community Territories

The Niger Delta Region is defined primarily in political and economic terms because of the presence of oil and gas exploration activities rather than by its geographical challenges as a delta. This has informed the Federal Government's classification of the community territories into three separate categories:

i. The producing host communities which are those with onshore oil exploration
ii. The transit host communities which have pipelines passing through their landscape
iii. The terminal host communities which are coastal communities and exploration is offshore but facilities are placed on their landscapes.

The findings in this study indicate that the above classification of community territories by the Federal Government does not cover all the landscape types in the Region. Furthermore, by restricting the classification to oil and gas variables, it also limits the understanding of other challenges in the landscapes of the Delta Region and focuses on the effect of oil and gas exploration activity. The implication is that the challenge becomes more social in nature because of the nature of the prevailing civil unrest in the area. This informs the Federal Government's social intervention programmes. However, this focus has missed other challenges, which are of importance to the understanding of the landscape and may therefore suggest another reason for the failure of the social intervention programmes in the Region to date, (see Section 4.2.4.)

b) Nature Induced Environmental Challenges

The literature reveals that since the 1900s financial resources have been dispensed by the government for the development of the Region (Ibeakuzie,

2005b; Idemudia and Ite, 2006; NDDC, 2006; Arieweriokuma, 2009; Adekola and Mitchell, 2011; Okumagba and Okereka, 2012), initially in relation to palm production and later petroleum production. However, the first recorded environmental problem in the Niger Delta Region was identified by the then colonial government as being nature-induced because of the delta's flat swampy terrain and muddy basin which is intersected with rivers. This area is subject to floods and to erosion. The first development programme for the Delta Region by the British Colonial Government was land reclamation as pointed out in Enemugwem (2009), who indicates that Nypa palm with the botanical name "*N. fruticans Wurmn was planted as a panacea to the Delta environmental problem. However this intervention neither stopped the erosion nor helped in reclaiming the Delta but began the dreaded environmental degradation of the Delta"* (p. 164).

c) The different landscape types of the Niger Delta Region

The data further indicates that there are different landscape types in the Region. The map (See methodology Chapter Figure 5.1) indicating the location of exploration and appraisal fields in the Niger Delta Region presents two broad categories of landscapes. One with exploration activities labelled 'B' by this research, as previously explained in Chapter 6 and the other without the oil and gas exploration activity labelled 'A'. The communities in 'B' have exploration activities onshore or offshore. Those onshore have either oil wells or pipelines running through them (see i and ii under section 8.2.1).

In these two broad categories of landscapes of the case study area, the findings identified four landscape types within the communities. Even though the Niger Delta Region is perceived as one in terms of landscape type, it actually has many settings or landscape types. This finding concurs with explanations by Roe and Taylor (2014) regarding how landscapes are referred to in the singular but actually represent many settings in a location. It also agrees with Adekola and Mitchell (2011) who describe how African landscapes have been portrayed as homogenous in research, whereas they are fragmented and diverse and therefore, heterogeneous, even within a community type. The landscape types identified in this research are:

i. Landscapes degraded by oil exploration
ii. Traditional rural landscapes
iii. Transitional landscapes
iv. Modernising Landscapes

The degraded landscape types are seen in Ibeno community B, the other three types are found in Eket community 'A'. The analysis of the landscape respectively provide the different future change drivers for each type; thus suggesting that understanding these individual landscape types is beneficial to setting up objectives for more sustainable future landscapes for each community.

8.2.2 Theme 1: Representation of Landscapes

People in different cultures and settings have different relationships with landscapes and understand the term in different ways. In several languages there is no equivalent for the English term landscape. Sarlov Herlin and Fairclough (2013) draw attention to the problematic nature of the landscape concept due to national and linguistic differences. It is even sometimes lost in translation as it carries additional meanings in different languages. The meaning of landscape to the communities of the Niger Delta Region was however unambiguous. This is expressed during the focus group interview with male elders, as being beyond just land. It covers the natural resources (oil), farms, the waters (rivers, creeks, sea, and ocean) and what it contains, including their traditional occupation and culture (M5-22Bpi). Hence, the communities' understanding of the concept landscape also mirrors that of the ELC (Council of Europe, 2000) and the shift to social processes thus making it a political and cultural entity (Olwig, 2005; Olwig and Mitchell, 2009). However, as English is a second language here, even though it is the lingua franca, the word landscape is sometimes referred to in the data as, 'this our land' or 'this our environment' or even 'in this our place'. Locally, the elites use the word synonymous with landscaping, as in manipulating land through planting, etc.

The findings about landscape representations from both communities further demonstrate that landscape descriptions are found in stories and narrations, as well as in physical terms. The adult groups express their biography linked to changes in the landscapes over time. Thus reinforcing the concept of landscape as suggested by Scazzosi (2004) as being more than a view, panorama or scenery

or even just referring to nature and environment. This broader understanding encompassing not only what we see but the world we live in is supported in other studies (Mitchell, 2002; Wylie, 2007; Stephenson, 2008; Selman, 2012a)

The analogy between landscape and language can also be seen and are similar in both Eket communities A and Ibeno B. As expressed by Claval (2005), and Selman (2008), the landscapes of rural communities are described in terms of settings of friendship, kinship and employment; consequently, it is all about the narratives of daily chores and the relationship of livelihood eked out of the landscape.

The description of past landscapes was similar in both communities A and B and described as serene, productive and tranquil rural living (7.4.1.b) though for community 'A', it is with intensive labour during the day followed by the communal social life at night. The research findings show how easing this intensive day labour led to the initiation of landscape change, as explained in Chapter 7, Section 7.4.2.a and also illustrated in Figure 7.0.

The past landscapes of the Ibeno community B must have been equally intensive in terms of labour as today; however, when compared to today's worst landscape degradation it was not presented as such. Therefore, it could be argued that some 'rose tinted spectacles' are employed here; thus, supporting social construction in place meanings and landscapes as pointed out by Stedman (2003), as well as (Clark, 2012b).

The differences in the landscapes of Eket communities A and Ibeno B became apparent in the description of the present landscapes. Communities A have landscapes that are on their way to modernisation/urbanisation, initially so as to reduce the intensive labour in attempting to eke out a livelihood. Later this is driven by political structure and democratic governance, as well as the advantages of proximity to urban centres and seat of governance (See detailed explanation in Section 7.4.1.c). A spectrum of landscape types is identified by the research, ranging from the traditional rural to the substantially modernised (See Section 8.2.1).

Findings on the present landscapes of community B indicate the effects of spatial fragmentation in addition to symptoms of the presence of a vicious cycle as explained in the literature (Jongman, 2002; Selman, 2006; Selman and Knight,

2006). They are distinct landscapes of disconnections and degradations, of lost livelihoods and cultural values and much social unrest. In summary six, negative impacts of degradation were deduced from the research undertaken in this community and revealed in Section 6.6.2.b.

8.2.3 Theme 2: Processes in landscape

The findings were guided by questions on how the landscape operates referring to the processes and actions of its evolution. The two principal findings from Ibeno community B first identify the drivers of landscape change emerging from the processes that create the present degraded landscapes, while the second is with respect to how the processes within the landscape are viewed from different perspectives by the demographic groups

The drivers of landscape change are:

1. Loss of livelihood to oil and gas exploration activities
2. Increase in population by 'visitors' in-migrants
3. Sales of land by both leadership and locals to visitors, as a result of poverty
4. Differences in cultural values, lost cultural heritage and traditional layouts of communities
5. Landscape fragmentation due to the indiscriminate creation of structures by visitors
6. Non-availability of land

With regard to how the processes are viewed, the findings are:

a. The different demographic groups focus on different values regarding the landscape. Based on their focus of interaction with the landscape, each group places emphasis either implicitly or explicitly.
b. The values derived from such interactions are seen to accumulate with people's age (See Figure 6.6)

Figure 6.6 assists in the understanding of the connections among seemingly unrelated phenomena that have an impact on physical forms and that would continue over time to sustain that impact (Spirn, 2005). The findings on the different perspectives of the demographic groups on the processes creating the present

landscape are all similar for Eket community A. However, the principal findings on the production of the three landscape types are different. The landscape types evolved from the traditional type and are influenced by the predisposition of the youths who live in those landscapes to education. This concurs with Greverus (1989, p. 32) who suggests that the formation of natural and cultural landscapes depends on the social stage of development; and is beyond the economic, political, scientific and technological levels of development; this is about ideology or the worldview. Youths who travel to urbanised areas to acquire education are exposed to less laborious ways of living and making a livelihood. On their return home, they relocate to communities with basic infrastructure and less intensive labour, for instance those with cottage industries.

It is worth noting that changes in demographic profiles impact upon both traditional and transitional landscapes types. Basic infrastructure, politics, governance and modernisation have all been introduced to traditional landscapes with proximity to urban centres, consequently making them modernised rural landscapes. The processes present disadvantages, such as marginalisation, gentrification and loss of cultural identity in the landscapes.

Figures 7.9 and 7.12 in Chapter 7 illustrate the processes leading to landscape change in community ‘A’. However, they are presented in linear form to demonstrate the impact from different inputs. Nonetheless, they might best be represented in a cyclical way to conform to Kuhn’s paradigm shift (Kuhn, 1970).

It is important to mention that questions on Steinitz’s (1995) Process Model guides the identification of the emerging drivers of landscape change for the Eket communities ‘A’ which are:

i. Infrastructure from new political dispensation
ii. Youths education and travels
iii. Population change and influx
iv. Commerce
v. Changes in occupation
vi. Rural urban migrations

As already discussed in detail in Chapters 6 and 7, the findings indicate that structure/elements have been introduced into the landscape, as a result of social

developments that were prevailing during that period. Palang *et al.* (2000) demonstrate how the implication of these material and non-material features, and the underlying processes regarding landscape planning, appear when the impact of the introduced changes on land-use configuration is evaluated. Furthermore, with the establishment of goals, the spatial configuration of an existing landscape and the processes can be planned (Hersperger, 2006; Hersperger and Bürgi, 2009) towards the achievement of more sustainable landscapes.

8.2.4 Theme 3: Evaluation Models

The findings in relation to the evaluation model answer the question: is the landscape working well? (Steinitz, 1995).

With respect to community 'B' Ibeno, major findings are in the identification of forces and drivers of landscape change, in the production of a vicious cycle in the landscape, and in issues of power and control, in addition to lost heritage and connections to landscapes. These are elaborated upon below:

a. Oil and gas exploration and loss of livelihood are drivers of change. One impacting the natural, the other the cultural landscape, as illustrated in Figure 6.12.

The nuances concerning the classification of drivers of landscape change identified in the body of literature (Pahari and Murai, 1999; Bürgi *et al.*, 2004; Antrop, 2005; Schneeberger *et al.*, 2007) are also identified in this research. Drivers of landscape change are forces that cause observed landscape changes (Bürgi *et al.*, 2004). Consequently, the nature of the enquiry dictates which driver is called direct, indirect, primary etc., and therefore, even on the same landscape, the direct or primary driver etc. could change depending on the enquiry. This can be observed for example in Figures 6.12 and 6.13, which attempt to explain the different drivers on the landscape of Ibeno community B and their interactions. In Fig 6.12, it is apparent that the in-migrants are the direct drivers of the cultural landscape change as they impact upon numerous interactions. However, in Figure 6.13, which illustrates the vicious cycle on the landscape (adapted and modified from Selman and Knight, 2006), the in-migrants become secondary drivers, while the indigenes'

lack of skills (to fish the polluted rivers) is the direct driver of landscape change for this enquiry.

Therefore, for Ibeno communities B, the major driving forces are oil exploration activities and loss of livelihood; induced by humans. The forces behind oil and gas exploration activities are exogenous political economic forces and extrinsic, seeing that they are governed at the national and international level by the Federal Government and multinational oil corporations respectively. While loss of livelihood etc., are intrinsic because they are governed at community and State levels (Bürgi et al., 2004). Furthermore the research also identifies the primary, secondary and tertiary forces (Fig 6.13) in community B. None of the forces of landscape change appear to be intentional; therefore, the data suggests that they are all accidental.

However, because of the nature of the terrain of the Delta Region (Uyigue and Agho, 2007; Adekola and Mitchell, 2011) there are also naturally induced driving forces, such as recent excessive flooding caused by climate change, coastal erosion, changes in vegetation and rainfall patterns (Uyigue and Agho, 2007). These are just beginning to be accentuated, as they have been overshadowed by the politics of the oil and gas exploration and the threats to ecosystem services (Thurber *et al.*, 2010; Adekola and Mitchell, 2011; Okumagba and Okereka, 2012). This is now beginning to expose the constellation of actors and driving forces, as research by Schneeberger *et al.* (2007) identifies and is shown in Table 6.3. The complex systems of interaction and dependencies relating to landscape change are illustrated in Figures 6.12 and 6.13 (Bürgi *et al.*, 2004). The data suggests that the forces that are human-induced and have a negative impact on the landscapes are more distinguished and discussed in detail, whereas those induced by nature and impacting the landscapes are mentioned although not spoken about in as much detail. This is possibly for the reason that the forces of nature are seen by the communities to be beyond the control of humans and despite the visible presence of the forces of nature as observed during the transect walks.

b. Production of the vicious cycle of decline in the landscape

Schneeberger *et al.* (2007) notes that landscape changes are most often visible in places with severe environmental problems. In Ibeno Community B, the landscape

change is most obvious as oil spills frequently pollute the waters and “water is a powerful and interactive agent in a living landscape” (Dundon, 2008, p. 7), primarily where it constitutes the main source of livelihood. The effects of the pollution lead to habitat and spatial fragmentation and, as Stephenson (2008) shows, landscapes contribute to cultural sustainability. This fragmentation impacts on the communities’ sense of place and results in their discontentment with leadership, both at the national and local level for its failure to protect the landscapes’ multiple values which provide livelihoods for the people. The interaction of process, structure and functions and the social challenges exhibit the symptoms of what Selman and Knight (2006) describe as a vicious cycle. This can be observed in Ibeno communities B and is revealed in Figure 6.13.

c. Issues of Power and Control

The institutional failures create numerous social problems, for instance loss of land to in-migrants and its attendant effects. Additionally, issues of power and control become prominent with accusations and counter accusations from the people and their traditional leaders, in addition to local politicians, as elaborated upon in Chapter Six.

The Federal Government blames the multinational oil corporations (though this blame is not viewed as too serious by the communities) for polluting the landscapes, as well as local politicians for inciting the youths to violence and disruption of economic activities. The State Governments and local politicians view Federal Governments’ institutions as being incapable of protecting their landscapes and since the Region is the primary source of revenue for the country, they are therefore canvassing for resource control as a solution to environmental degradation. The traditional leadership accuses the State Government of neglect pertaining to the infrastructure and physical development of the landscapes, so much so that even roads leading to the exploration sites have not been provided (M5-22Bpi). Meanwhile, the indigenes blame traditional leadership and local governments for selling off the best part of the land to the in-migrants and the multinational corporations (F1Bi). The latter are seen to be doing as they wish; “*they are greater than the land and her people”* (F5-7Bp) and are perceived to be

more powerful than the Federal Government and even nicknamed “Mobil Producing Nigeria” (M5-22pi). As a result, institutional failures are being blamed for the spatial fragmentation caused by selling land to the in-migrants, who have different cultures and therefore, use land differently (F1Bi). Additionally, the indigenes express their distrust with regard to any form of leadership.

d. Lost Heritage and landscape connections

Ibeno community B exhibits what Mitchell (1998) as well as others (Selman and Knight, 2006; Stephenson, 2006; Stephenson, 2008; Stephenson, 2010; Roe, 2012c; Selman, 2012) discuss about landscapes being products of human labour encapsulating dreams, desires and the injustices of the social system. The loss of livelihood affects the social dimension similar to that which Selman and Dawson (2012) draw attention to. Furthermore, social connections to landscape are lost through the distortion of the traditional landscape layout, planning and management, which affect its meanings for the community. The indigenes are occasionally hostile to the in-migrants, for example, by making the in-migrants perform environmental sanitation tasks alone. This weakened the bridging bond between the groups. The indigenes regularly reinforce the relationship amongst themselves to the frustration of the in-migrants, by refusing to share compensation from oil spills with in-migrants; thereby ‘strengthening indigenes’ bonding capital’ within their own group (Selman, 2012). Similarly, other social-cultural values are replaced with what the community considers to be social ills, for instance early pregnancy, single mothers and female youths refusing to further their education and instead interacting and socialising with expatriate Mobil workers, as explained in a focus group discussion with women (F5-7Bp).

e. Community A in search of a new landscape type

The most prominent themes for the evaluation of community A are rural-urban migration, particularly of youths, due to unemployment, poor landscape management and lack of development. In explaining traditional societies, Batomunkuev (2003) explains how this lack of social functionality and productivity could be a severe constraint to community cohesion. The research establishes how education instituted change in the youths for facilities and infrastructure and less labour intensive ways of livelihood. M28aiz bemoans how the lack of development

is sending the youths out of the rural areas to modernising landscapes and urban areas. In addition, the youths indicate their love for the village setting but yearn for the presence of new developments, for example communicative infrastructure and facilities and good landscape management.

What the research establishes to be most striking from the evaluation of community A is how the traditional landscape type is gradually being transformed to a modernising landscape, as a result of these changes in taste and dispositions, which can also be attributed to globalisation.

The data demonstrates the transition landscape type to be the most attractive in terms of layout and facilities. However, transition landscape types attract population change and negative consequences as more people migrate into them. Challenges and opportunities create changes in occupation for the youths from agriculture-based to those based on the internet and the computer, thereby leading to loss of interest and skills in farming. The new mobility due to the proximity to urban centres leads to rural-urban migration and land being sold to in-migrants further fragmenting the spatial landscape by introducing heterogeneous cultures and gentrification. The modernised landscapes are turning into landscapes of dystopia, which Carey (1999) explains *"as utopia… an imaginary place must be an expression of desire…as dystopia it must be an expression of fear."*

8.2.5 Theme 4: Change Model

The model poses questions on actions that may change the current landscape and whether it could be by current trends in landscape change or a complete new action or theory. The two categories of communities A and B exhibit what Rogge *et al.* (2007) recognise as multiple cultures on landscapes represented by different social classes, ethnicities, demography or even generations. In community B Ibeno, the data indicates homogeneity in change drivers according to community type; therefore, responses are similar within community of place, interest or identity. These support the uniform characteristics of community types shown in literature (McMillan and Chavis, 1986; Stewart *et al.*, 2004; Manzo and Perkins, 2006). In community A Eket, responses to what should constitute the change drivers indicate homogeneity within landscape types.

Furthermore Tables 6.8 and 7.2 in relation to community B and community A respectively, demonstrate that the overall contents are the same for both communities, meaning that the constellation of change drivers is the same for both. Only the addition of the immigration policy for community B is different, probably because of the presence of immigrants as well as in-migrants**.** The difference is in the housing for community A due to influx and the changing population in the modernising landscape type.

Despite the constellation of the change drivers for the two categories of landscapes being similar and hence, seen as the basis for understanding change and for envisioning future landscapes of the Region, the research argues that in practice application should be based on landscape type. Thering and Chanse (2011, p. 6) express a similar opinion by speculating that the disciplines of landscape architecture and planning '*focus on social constructs though delineated in physical and temporal reality and on a case by case basis'*. The visions of community type A are visions of people living together within the same landscape. Nevertheless, change drivers for the landscape types are based on the characteristics of the landscape, as well as the interaction of the people with it. This highlights the importance of understanding the processes, evaluation and change of each landscape type in creating visions for future landscapes.

8.3 Implications of landscape sustainability

This second part discusses the findings, first as it relates the dimensions to sustainable landscape and second, how it impacts on theories and concepts initially seen as appropriate for the Niger Delta Region.

8.3.1 Change drivers in relation to the dimensions to sustainable landscapes

Selman (2008) summarises five dimensions: environmental, social, economic, political and aesthetics that impact upon sustainable landscapes. The change drivers for each community type and landscape types for the two case study communities are presented in Tables 6.8 and 7.1 and the dimensions representing the change drivers in Tables 6.9 and 7.2. The constellation of change drivers are

recognised as being similar for both categories of communities (Ibeno and Eket). Consequently, the presence of the five dimensions in relation to sustainable landscapes as change drivers is required for envisioning future landscapes in both communities A and B. The frequency or type of dimension differs according to the landscape type (Table 8.1).

TABLE 8.1: LIST OF CHANGE DRIVERS TRANSLATED INTO DIMENSIONS OF SUSTAINABLE LANDSCAPES FOR LANDSCAPE TYPES

	Degradation landscape	Traditional rural landscape type	Transition landscape type	Modernising landscape type
Dimensions of sustainable landscapes representing change drivers	i. Economic/ social ii. Environ/ social iii. Environment iv. Social v. Political vi. Environ /aesthetic vii. Environ/ economic viii. Political/ economic ix. Social x. Social	i. Economic ii. Social iii. Environ/Aesthetic iv. Social	i. Environ /Aesthetics ii. Social	i. Social/ Economic ii. Environ/ Social iii. Environ/ Aesthetic iv. Economic / social v. Political vi. Political
Different Dimension Types	**5**	**4**	**3**	**5**
Frequency of each Dimension Type	**Environment 4 Economic 3 Social 5 Political 2 Aesthetic 1**	**Environment 1 Economic 1 Social 2 Aesthetic 1**	**Environment 1 Social 1 Aesthetic 1**	**Environment 2 Economic 2 Social 3 Political 2 Aesthetic 1**
Total number of Dimension types	**15**	**5**	**3**	**10**

Table 8.1 presents a summary of the corresponding sustainable landscape dimension for each change driver, in each landscape type of the case study area.

The social dimension is the most prominent change driver for the future landscapes of the case study area with a total frequency of 11 (eleven) meaning that a total of eleven change drivers were of a social nature. This is then closely followed by environmental with a number of 8 (eight), economic with 6 (six) and finally, political and aesthetics with 4 (four) each. The environmental and social dimensions are present in all the columns, suggesting that understanding their roles and relationships could be an important focus for envisioning sustainable future landscapes. The prominence of the social dimension corroborates what is recognised in landscape interventions being only successful when there is consideration of the social dimensions in conjunction with any other challenges (Roe, 2007b; Selman and Dawson, 2012; Jorgensen, 2014). By extension, the environmental dimension, next in the frequency of change drivers, also suggests that landscape intervention in the Region could only be successful by considering it in combination with the social dimension. This also supports the argument in this research for landscape planning to play a crucial role.

The tables also imply that while the change driver might be of one dimension, in reality it may also be an overlap of two or more dimensions. For example, the control of rural-urban migration has both social and economic dimensions; therefore it is socio-economic in nature. Additionally, housing is socio-environmental because of the two components in the change driver. Similar to the presentation by Thompson (2002a) pertaining to overlaps in the sources of values in landscape architecture these five dimensions frequently overlap. Furthermore, as explained above, successful landscape intervention involves the consideration of the social dimension in conjunction with other dimension challenges (Jorgensen, 2014).

If different colours are used to represent the five dimensions on a landscape type, the change drivers might be expressed graphically by single rings or two rings overlapping, or could become more complex with more than two rings overlapping, as shown in Figure 8.1. These might further suggest that the more complex the overlaps, the more challenges on the landscapes. The absence of a dimension as a change driver may possibly suggest that the dimension is working well on the landscape at that moment. An example can be observed in the transition landscape

type where the change drivers are only road infrastructure and education. This may imply that the political and economic are thriving at that point in time.

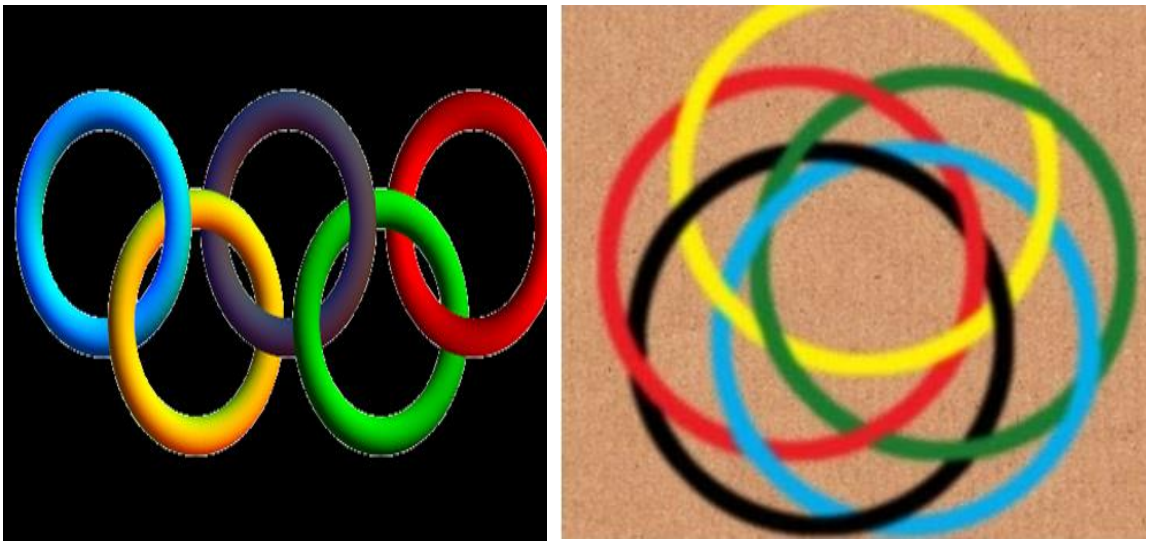

FIGURE 8.1: EXAMPLE OF A SIMPLE AND A COMPLEX CONCEPTUAL OVERLAPS OF THE FIVE DIMENSIONS

Source: Adapted from the Olympic rings and taken from Thompson (2002b)

The research by through deduction from Table 8.1, suggests that the greater the number of dimensions and the higher the frequencies of the different dimensions, the more the landscape challenges. Consequently, by inference, Community B Ibeno of the degraded landscape type has the most landscape challenges with a total frequency of 15 on the dimension list. The modernising landscape types is next in terms of challenges with 10, followed by the traditional landscapes type with five, and subsequently, the transition landscape type with three dimensions. One can argue however that Community B Ibeno is assessed for change drivers by community types and not landscape types. In spite of this, it is only one landscape type (degraded) as all the responses are for that landscape. Therefore, all the dimensions and their frequencies are actually for the degraded landscape type.

Theorising this further, it could imply that the transition landscape type, which has the least number of change drivers has no economic dimension on its list of change drivers and hence, might have minimal economic challenges for now. This agrees with findings (7.4.4.a.ii) in the data that the transition landscape type is the closest

to in community satisfaction, as it has feeder roads and cottage industries, which translate to employment for the youths and outlets for the communities' farm produce. Similarly, the degraded landscape type of community B with the highest frequency is shown by Figure 6.12 to be experiencing what Selman and Knight (2006) explain as a vicious cycle of decline. These types of interpretations can play an important role in transdisciplinary planning where they evidently demonstrate the disciplinary input that may possibly become critical regarding future sustainable landscape.

8.3.2 Dimensions to sustainable planning in relations to the selected approaches

In order to conceptualise sustainable future landscapes for the Delta Region, approaches, frameworks and methods have been selected from the literature (Steinitz, 1990a; Steinitz, 1995; Leitao and Ahern, 2002; Ndubisi, 2002; Ahern, 2005; Selman, 2006; Tress *et al.*, 2006b). The selection is shown below as presented in Section 2.5:

i. Regarding the two theoretical frameworks, the procedural approach was chosen

ii. In the ABC model, landscape planning was determined to be the most appropriate

iii. An offensive strategic orientation was selected because of pollution and social uprising in the Region

iv. A transdisciplinary typology was used to involve participation by the community

v. The spatial context chosen was the community level

These selections are further reviewed in line with findings from the data as environmental surprises, for instance, unpredictability and uncertainties abound, as explained in the literature (Naveh, 1995; Naveh, 2001; Enemugwem, 2009; Nyong, 2011); these need to be anticipated when the goal is to achieve sustainable landscape planning. This section discusses the findings with regard to the above selection and makes appropriate recommendations.

The change drivers have encompassed a wide range of the dimensions of sustainable landscape planning by means of their goals and values. In the economic dimension, livelihood is identified as a primary change driver for all the landscape types. Similarly, in the political dimension, communities canvass for good governance as a change driver and from the social dimensions education and social learning are a few of the identified aspects. Moreover, cleaning oil spills and gas flaring are identified as being a part of the environmental dimension.

A theoretical analysis indicates that there are areas of the macro drivers of change that require more understanding and explanation, particularly as the social dimension is the most prominent (see Table 8.1). There are also economic and political issues that may be beyond landscape planning or might need to be further explored, in order to achieve sustainable development (note that the role of substantive and procedural theories are explained under the theoretical orientation section in chapter two). Additionally, the sustainable processes and patterns in traditional landscapes need further study. Therefore, as Thering and Chanse (2011, p. 10) explain, substantive theory becomes necessary to inform "*investigations relating to nature of the environment, human responses to the environment and nature of human behaviour to the environment",* while procedural theory is employed to inform investigations relative to nuances of design practice. Consequently, both procedural and substantive theories are required.

Using ABC model (Leitao and Ahern, 2002; Ahern, 2005), the research identifies areas in the degraded landscape of the coastal community of Ibeno for mineral resources planning, water resource planning, landscape ecological planning and ecosystem management. It is suggested that offensive strategic orientation (Ahern, 2005) directs the general landscapes of the oil exploration Region. This is for the reason that this approach provides a vision for landscape configuration and restoration which appears to be missing in the present social intervention programmes, whereas a different strategic orientation might be more appropriate for the four different landscape types. Therefore, concerning the degraded landscape of community B Ibeno and the modernising landscape type, the offensive (ibid) is still recommended, while the opportunistic strategy (ibid) may suit the transitional landscape type more. The protective strategy (ibid) could serve the traditional landscape type so that it maintains its existing sustainable processes

and patterns. Consequently, the research findings suggest identifying an appropriate strategic orientation for each landscape type.

The option of transdisciplinary planning is still suggested with emphasis placed on the integration of professionals, non-academic and academic participants. This is in order to achieve the social construction of knowledge that will provide insights and an improved understanding of the challenges of the Delta Region towards sustainable future landscapes. The proposal for transdisciplinary research and planning is supported by the literature (Tress et al., 2005; Tress et al., 2006a; Tress et al., 2006b; Thering and Chanse, 2011) based on the identification of several dimensions that transcend the pool of knowledge of landscape architecture/planning, as well as the current social intervention programme (NDDC, 2006).

The research suggests that envisioning or conceptualising future working with other disciplines sustainable landscapes for the Delta Region might best be undertaken by trained landscape architects as there is need to integrate the different nuances of a landscape, as depicted by the research's in-depth understanding of the constellation of driving forces and processes operating on the landscape types. If this could be done it would be easier to objectively identify what needs to be undertaken to create a desired landscape "*by gathering the expertise and value systems of multiple disciplines and stakeholder groups as well as the expert and local knowledge cultures*" explained in Thering and Chanse (2011, p. 9). And not only through "*multidisciplinary approaches where researchers work from the perspective of their respective disciplinary models and methods*" (Rosenfield 1992, cited in Stokols 2006, p. 67), the research findings provide a platform for transdisciplinary planning and research. This is a term Stokols (2006, p. 67) defines as "*the process of developing a shared conceptual framework that addresses a common research topic in a way that synthesises and expands upon the concepts, methods and approaches of these differing disciplines".*

The research findings suggests support for the community level, as the spatial level for enquiry. This is because of the presence of multi-cultures and landscape types; therefore, one general solution will not address the problems of the Niger Delta Region, given that each landscape type has its own unique challenges.

8.4 Implications of sustainable landscape planning for the Region

Ahern (2005, p. 120) indicates how sustainable landscape planning is closely related to physical planning and therefore aims to "*optimize the distribution and allocation of land often in a space limited context…as well as aspiring … to link knowledge about sustainability with actions to achieve it… thus implementing or operationalising the principles of sustainability in planning theory and practice".*

Guided by the Brundtland definition, which makes clear that achieving sustainability is to accomplish the balance between human needs and environmental integrity (usually represented by the triple bottom line definitions Figure 2.2), Wu (2013) further explains how sustainability is multifaceted and inherently context-dependent. Wu also explains that the term landscape integrates all these facets into its one holistic context. Hence, the landscape context "*integrates the cultural, social, political and most ubiquitously, spatial" (p. 1009).*

This final part of the chapter aims to discuss the practical implications of sustainable landscape planning in the Region.

The social, environmental and economic dimensions are identified as the three leading change drivers for the landscape of the oil and gas Region (Table 8.1) and have frequencies of 11 (eleven), eight (8) and 6 (six) respectively. Similarly, community development, livelihood and combating environmental degradation are top of the civil societies' requests to the oil corporations and the Government (Ikelegbe, 2001; Omeje, 2005; Ikelegbe, 2006; Omotola, 2007; Ojakorotu, 2009a; Ojakorotu, 2009b). Tables 4.3 and 4.4 are used to discuss these in detail.

The research identifies livelihood and roads in Tables 6.8 and 7.2 respectively as change drivers for future landscapes in almost all the responses from the case study area. However, in discussing livelihood strategies De Haan (2000) clarifies how

> "*livelihood is not necessarily the same as having a job and does not necessarily even have anything to do with working…obtaining a monetary income is an important part of livelihood…not the only aspect that matters…people need five vital resources in order to achieve a sustainable livelihood: 'human,' 'natural.' 'Physical,' 'financial,' and 'social,' capitals" (p. 343).*

According to Chambers and Conway (1992 cited in Nguyen et al. 2006) for livelihood to be sustainable, people's capacities to generate as well as maintain their means of living must be addressed without denying them the ability to cope and recover from stresses and shocks. These authors above further contend that while considering the wellbeing of present and future generations, the environment or other livelihoods should neither be exploited nor prejudiced. In order to achieve greater sustainability in a landscape, Wu (2013) considers what to sustain, what to develop and the explicit interactions regarding the socio-cultural, biophysical and landscape configuration. He, further suggests the importance of these factors in the creation of future landscape visions in the Region.

The research findings can be grouped into concerns of relevance to landscape planning into

i. Environmental issues (a clean environment and climate change)
ii. Social issues (future cultural landscapes)

8.4.1 Planning for a clean environment

In relation to the issues discussed above sustainable landscape planning for the Niger Delta Region will provide for a clean and sustainable environment.

This is needed because of the vulnerability of the ecology and the dependency of the communities for their livelihood and sustenance on the environment. Oil spills and gas flaring remain the most formidable challenge with respect to a clean and sustainable environment, The research also reveals that continuous spills or leaks present environmental effects that are long-term and damage is inflicted on both flora and fauna (Idemudia and Ite, 2006).

As Okonmah (1997) asserts, the environment needs to be free of pollution to natural and social amenities, such as farmland, wildlife, marine life, recreational beaches, shrines and property. The author specifies that in essence responding to this need is planning for a right to life in the Region and further demonstrates *"how the fulfilment of the most fundamental human needs was dependent on elements of the environment" (p. 53).* The author implores the Federal Government to ensure that the communities enjoy the full right to life in their environment by eliminating

the problems of "accidental spills*, deliberate dumping, leakages at drilling rigs, pipeline leakages, flaring of gases and disposal of used oil" (p. 52).*

The implication for spatial planning is to support policy provisions for anti-pollution and oil spillage measures and for landscape planning and design to look into new technologies and regenerative designs. This is in order to address the challenges of environmental degradation and resource depletion, in addition to designs that will improve sustainability.

It is worth mentioning that further research is required in these areas, given that regenerative designs are very specific to their localities (Thompson, 2007).

8.4.2 Planning for climate change

Issues of oil exploration and gas flaring are the most frequently cited causes of the pollution in the Niger Delta Region. Such dependency on non-renewable resources in an environment like the Niger Delta could eventually lead to any of three kinds of environment changes, particularly as exacerbated by climate change. These are pressure on non-renewable resources, overloading of the sink capacity of the environment, e.g. pollution, and also, the impoverishment of living spaces.

As climate change is likely to have consequences for the entire environment two terms 'adaptation' and 'mitigation' are important in relation to the climate change debate (IPCC)[34]. In mitigation, the causes of climate change are tackled, while in adaption it is the effect of the phenomenon that is dealt with (IPCC). As a consequence of climate change, coastal Regions worldwide are experiencing flooding and the Niger Delta Region is no exception. It is particularly susceptible to environmental changes as the second largest wetland in the world with a coastline of 450km and a span of 20,000 square kilometres of mangrove swamps (French *et al.*, 1995; Uyigue and Agho, 2007). As mentioned earlier, It is also one of the three largest wetlands in the world and the largest in Africa laid out in creeks,

[34]The Intergovernmental Panel on Climate Change (IPCC) is a body established in 1988 by the World Meteorological Organisation (WMO) and the United Nations Environmental Programme (UNEP). Its objective is to provide authoritative information regarding climate change phenomenon, and which produced enough evidence in their first report in 1990 to show that climate change is a reality and moreover, that it is being caused by anthropogenic activities.

estuaries, rivers and stagnant swamp of 8600 square kilometres (Olukesusi, 2005; Adekola and Mitchell, 2011).

Uyigue and Agho (2007) point out that

> *"Reports on the environmental state of the Niger Delta are conclusive that the area has become an ecological wasteland…Previous documentations on the Region have focused on the environmental and climatic changes while suggesting mitigation* measures. To the best of our knowledge, there is no existing documentation on the adaptation to climate change and other environmental changes in Niger Delta" (p. 7).

The work of French et al. (1995) similarly signifies that coastal erosion is the most important environmental problem confronting the Niger Delta. Additionally, it argues that although the World Bank (2012) rated it as requiring moderate attention, the impact of the rise in sea level in the Region should be given high priority owing to the flooding to low-lying areas, uprooting of coastal settlements and coastal vegetation, principally mangroves. Occasionally, even oil wells, such as Forcados have been lost to the ocean. Similarly, Uyigue and Agho (2007) note the adverse effect of the rising sea levels on farming and fisheries due to the increased salinity of the surface and underground waters, leading to the destruction of aquatic plants and animals (50% of fish consumed in Nigeria is from the Region) and the threat to economic activities.

A summary of the general impact of climate change in the oil and gas exploration Region reveals coastal erosion and floods, changing rainfall patterns, acid rain, changing vegetation, including loss of primary forest and general flooding (ibid).

The research suggests marine spatial planning[35] and terrestrial spatial planning as the new agenda for planning in the Niger Delta Region. This is for the reason pointed out in Gazzola et al. (2015, p. 1156)

> *"Though once a void in terms of planning, the sea is now becoming full. Marine concerns are still seen through the lens of land-based activity and concerns; the gaze is still very much from land to sea. But this is a space that is also vulnerable to impacts and in need of protection because of the*

[35] According to UNESCO 2012, marine spatial planning is a public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives that usually have been specified through a political process. Characteristics of marine spatial planning include ecosystem-based, area-based, integrated, adaptive, strategic and participatory.

vital ecosystems and fragile biochemical resources that marine environments support"

The authors base their arguments on the differences between the terrestrial and the marine environments and suggest further research is needed on the conceptualisation of what space, place and spatial mean in marine spatial planning particularly in relation to terms such as 'ecosystem approach' for the marine environment or what 'ecosystem place-based approach' entails, or even whether 'place-based' rationales are applicable to the marine environment. This research suggests that a new focus on this specialised area may be apt for the Region's landscape. Planning initiatives in the Delta Region require a new impetus and an alternative view since the marine environment is a completely new spatial planning environment, particularly considering the additional challenges of climate change in the Region. This could be achieve through serious consideration of climate change and *a 'new fish the sea'* approach, while engaging policy-makers and politicians, as well as those with power in the landscape planning initiatives.

8.4.3 Planning for a new cultural landscape

Cultural landscapes, as recognised by the World Heritage Convention[36], include three categories of outstanding universal values (Taylor and Lennon, 2011, p. 539). They are:

a) *Clearly defined landscapes designed and intentionally created by man*
b) *Organically evolved landscape in two categories*
    i. *A relic or fossil landscape in which an evolutionary process has come to an end but where its distinguished features are still visible*
    ii. *Continuing landscape which retains an active social role in contemporary society associated with a traditional way of life and where the evolutionary process is still in progress and which exhibits significant material evidence of its evolution over time*
c) *Associative cultural landscapes: the inclusion of such landscapes is justifiable by virtue of the powerful religious, artistic or cultural association of the natural element rather than the material evidence.*

[36]UNESCO World Heritage Centre – Cultural Landscapes: http://whc.unesco.org/en//en/culturallandscape/

Roe and Taylor (2014) present cultural landscapes as a result of the interaction between people and natural processes, with culture as the agent and nature as the medium. Similarly in Selman (2006), a review of cultural landscape thinking presented in the literature over the years, suggests that it consists of people and nature, past and present, tangible and intangible, physical attributes and heritage in a relationship of stewardship represented by forms, meanings and functions, in addition to structures, functions and values (Nassauer, 1995; Stephenson, 2006; Stephenson, 2008; Taylor and Lennon, 2011; Roe, 2012c; Selman, 2012; Taylor and Lennon, 2012).

1. Landscapes to behold

As the landscape change in the Region relates to complex interaction between social, environmental and economic change drivers (Table 8.1), it can be argued that the primary concern might not necessarily be only with regard to the individual dimensions of landscapes, such as the environmental or the economic, but rather within the intersections, which can be understood by considering the cultural landscape of the Region. The research too has ample illustrations of concerns for lost culture and cultural values, principally by the females (see F2Bp, F5-7Bp, F18bcz), as well as the male elders (M20aiy). They claim that they have lost their entire cultural heritage besides their language and have nothing to bequeath to their children and future generations (see 6.4.3.a and 7.4.3.a). The data also notes how, through a landscape state of enquiry, the in-migrant fishermen are considered as undesirable drivers of landscape change because of their indifference to cultural environmental ethics, such as sanitation and what is considered to be the inappropriate and haphazard erection of structures on the landscape (Figure 6.13).

Despite lamenting the lost cultural landscapes of the past, findings indicate that the communities acknowledge that landscapes of the past have already been lost beyond redemption (see M1Bi in 6.4.2.a.ii) and moreover, that their youths are not desiring a return of lost landscapes but are searching for new landscapes of employment and opportunity. The communities also demonstrate a desire for a '*designed and intentional created landscape'* befitting their status as the revenue generators of the nation. This was articulated by community leaders and elders at the focus group interviews where they lamented the poor state of their landscape and comment that the focus on this should be second only to the focus on Abuja,

the nation's capital (see M5-22Bpi). Moreover, the literature also shows that community development tops the list of requests by civil societies in the Delta Region (Ikelegbe, 2001; Ikelegbe, 2006; Omotola, 2007). The agitation for resource control and all the social intervention programmes operated by the Federal Government are principally to develop the Region into a place to behold (Ibeanu, 2000; Omeje, 2005; Idemudia and Ite, 2006; Omotola, 2007; Idemudia, 2009).

Nevertheless, the communities are looking forward to a future cultural landscape, which in line with Roe and Taylor (2014) will accommodate '*emerging issues, contexts and themes',* several of which have emerged in this research. Therefore, envisaging a new cultural landscape may be a way forward, as it would engage the elements and visions revealed in this research and others, based on the components of cultural landscapes reviewed in the literature and presented above. New cultural landscape ideas are essential in encompassing the vision, as well as in providing a new, more holistic planning tool that acknowledges natural processes, and social and economic relationships, including power relations and needs. The new cultural landscape should incorporate consideration of the impact of global issues, for instance climate change and oil prices in conjunction with local culture in its tangible, intangible and spatial context; thereby reflecting contemporary lifestyles and concerns and ensuring cultural values with the remediation.

2. Revitalisation of traditions

In support of the perspective for new and alternative structures, Lennon (2012, p. 59) advises that the challenge is to allow revitalisation rather than conservation of traditions to be created as "*traditional social settings and cultures that have been dissolved cannot be successfully recreated, only similar systems can be developed a new"*. With regard to this, the findings presented in Figure 6.6 providing the '*focus issues and accumulated values on landscape with age'* might prove useful in the representation of present concerns by demographic groupings, which in addition

to the other rediscovered knowledge and re-evaluated local knowledge (ibid) could be decoded into landscape planning.

Similarly, the literature identifies human settlements in rural areas in Africa as constituting a platform for the transformation of cultural landscapes by improving its liveability or creating a distinctive identity (IFLA Africa Symposium, 2013). The word human can be substituted by community, in line with the parlance (language) of discourse for the Region pertaining to the creation of a "new community settlement" approach. Therefore, suggesting that planning incorporating cultural values in community settlements of rural landscapes may possibly revitalise the community landscapes, as against the new global landscapes of modernity. These global values inform current governments' policies but are alien to the communities' realities and visions for future landscapes and may be contrary to the desired development of the Region. The analysis reveals how the complete loss of landscape character and gentrification in the modernising landscape type of community 'A' are examples of the impact of governments' policies related to new globalisation.

3. Landscapes planned with purpose

In the analysis, the modernising landscape types are second to the degradation landscape type regarding the poor condition of the landscape. The former might even be said to be in a worse state because the community of place had been evicted and displaced, whereas in the latter landscape type, the community of place had not yet been replaced by the in-migrants.

As analysis in this research demonstrates, the landscape types are evolving towards modernisation and influenced by globalisation; consequently, new cultural landscape thinking might exhibit a purpose contrary to what is obtained at present, where modernising landscape types have become the unplanned landscapes of the urban fringe. These landscape types, according to Speak (2014, p. 136) "*…evolve to service their every daily needs for shelter and livelihood* "; thus buttressing the importance of identifying the function to be provided by the landscape.

9 Chapter 9: Landscapes of Livelihoods

9.1 Introduction

Chapter 8 first presented a summary of major findings and discussed its implication on the identified theories and approaches, in addition to practice and occasionally policy. The Chapter concluded by discussing the impact of the findings on sustainable landscape planning of the Regions thereby directly addressing the second research question. This concluding chapter provides a concise revisit in relation to the research problems that defined the research questions. It summarises the principal findings that answer the research questions and guide the conceptualisation of the future sustainable landscapes. It further presents the research contributions, limitations and reflections, and provides suggestions on areas for further research. The chapter will cover in brief;

a. Revisiting the research questions
b. Conceptualisation of sustainable future landscapes
c. Contribution to knowledge
d. Potential for future research and research limitations
e. Final summation

9.2 Revisiting the research questions

The research questions were arrived at from concerns arising from the continuous civil unrest, communal clashes and sabotage to oil production from the communities of the oil and gas exploration Region in Nigeria, best known as the Niger Delta Region. The unrest hinges on the environmental degradation and severe poverty from loss of means of livelihood as a result of the oil and gas exploration activities in the Delta Region.

The oil and gas exploration Region lies in the heart of the wetlands and lagoons of the Niger Delta coastline. This area is the largest in Africa and encompasses the third largest wetlands in the world. The exploration of oil and gas accounts for over 90% of foreign exchange earnings through revenue accrued from exports. Furthermore, of equal importance is the Niger Delta as a Region that produces fish species, shrimps and oysters in commercial quantities of over 48,000 tons, which make up over 50% of the total fish production in the country (Uyigue and Agho,

2007; Enemugwem, 2009). To this effect and due to its unilateral economic support for the nation, from 1960, the Federal Government produced six social intervention programmes and created a unique Ministry of the Niger Delta, to supplement the functions of the Federal Ministry of Environment in the Delta Region. In addition, there are interventions conducted by international organisations and NGOs, including multinational oil companies operating in the Region. The sole aim is with regard to the development of the Niger Delta Region, which is predominantly rural with communities of small to medium size settlements of scattered hamlets; 54% of which have populations of less than 1000, whereas only 6% have from 5000 to 20,000 inhabitants (NDDC, 2004; NDDC, 2006).

The research questions arose from suggestions that the absence of spatial/physical planning was the missing piece in the puzzle of the Federal Government's intervention programmes and may have resulted in missed opportunities, low value for money and further frustration in the Delta Region (NDDC, 2006). The research supported this argument and proposed a landscape planning approach in view of the nature of the Region's landscapes, the sizes of the settlements, known as communities, and the Federal Government's request for the sustainable development of the Niger Delta Region. Studies have revealed that landscape planning is essential in addressing landscape degradation and sustainability, as well as providing more liveable environments (Ndubisi, 2002; Selman, 2006). The question was then to focus on what vision to use, so as to move to more sustainable landscape planning. To this effect the research suggests creating a vision through a transdisciplinary and bottom-up approach which first considers the views of communities working with those who live and work the landscape. The research aim was therefore to identify a way to achieve more sustainable future landscapes with the communities and how the future landscape planning of the Delta Region should be determined. As a consequence, this would aid the conceptualisation of more sustainable future landscapes for the area. The research questions then became;

1) What are the communities' visions for future landscape change?
2) How can these visions play a part in the future sustainable landscape planning of the oil and gas Region of Nigeria?

The objectives of the research are therefore presented as sub questions below:

a. What are the appropriate approaches for advancing more sustainable landscape planning for communities in the oil and gas Region?
b. How can landscape visions be created to play a major part in landscape planning for communities in the oil and gas Region?
c. What are the implications of these landscape visions for the present and future sustainable landscapes of the oil and gas Region?

9.2.1 Appropriate approaches and concepts identified

The research notes the assertion by Ndubisi (2002) that "*no single profession could understand fully all the intricacies involved in decisions about the wise and sustained use of the land* " (p. 6). Nevertheless, it is widely acknowledged that landscape planning provides a prime foundation for planning degradation landscapes and is essential in relation to planning for greater sustainability (Leitao and Ahern, 2002; Ndubisi, 2002; Ahern, 2005; Selman, 2006). Therefore, guided by literature and by deliberations from six workshops addressing philosophies, method and people engagements with landscapes at the transdisciplinary '*Transforming Practice symposium*' held from November 2010 to June 2011 (The Royal Society of Edinburgh, 2011), in addition to the classification of sustainable landscape models based on five sub categories summarised in Ahern (2005), the researcher suggests appropriate categories to guide the landscape planning of the Niger Delta Region. Under the sub categories of theoretical orientation (Ndubisi, 2002), the research suggests a procedural approach as appropriate, for the resource or goal orientation category (Leitao and Ahern, 2002), the research indicates that landscape planning could help address the threats posed by pollution and provide greater liveability and quality environments at the community level. The offensive approach was chosen from the strategic orientation group (Ahern, 1995) for the reason that the Niger Delta problem, which is predominantly of landscape degradation as a result of oil and gas pollution, threatens the unity and stability of Nigeria (as at 2011) and the research indicates that it is critical that the contending issues of the Region with regards to the landscape must be addressed in a unique but positive way.

A transdisciplinary approach (Tress and Tress, 2001; Tress *et al.*, 2005; Tress *et al.*, 2006a; Tress *et al.*, 2006b; Thering, 2011; Thering and Chanse, 2011) was

chosen to address the need for a range of knowledge including local understandings of the situation (Ndubisi, 2002). The community is engaged in conceptualising their future landscapes therefore, developing a shared conceptual framework of high integration between academic and non-academic participants. This approach aims to buttress the suggestion that there is a missing part to the puzzle in all the social intervention programmes for the Niger Delta Region, which had no spatial/physical planning component and is thought to account for the slow progress being recorded regarding the development of the area. The spatial context is at the community level and is based on the notion of community as a place.

The objectives pertaining to more sustainable future landscapes are guided by the desire for a more sustainable development of the Niger Delta Region, which is a goal specified by the Federal Government. This goal entails understanding issues concerning the numerous dimensions to sustainable landscape planning, which the literature shows to surpass those of environment, social and economic dimensions and to encompass others, for instance political, technological, aesthetics etc. (Spirn, 1998; Council of Europe, 2000; Thompson, 2002b; Sarlov Herlin, 2004; Olwig, 2005; Spirn, 2005; Selman, 2006; Benson and Roe, 2007; Selman, 2007; Selman, 2008; Olwig and Mitchell, 2009; Selman, 2009; Selman, 2012a). However, this research adopts the five dimensions related to landscape sustainability identified by Selman (2008) because it can explain the values necessary to attain sustainable landscape planning.

9.2.2 Creating landscape visions with the communities

In answer to the second objective, a landscape vision for the communities of the Delta Region was created by means of an empirical study conducted with two categories of communities which acted as case studies. Working with these particular communities also satisfied the safety and security concerns of the Foreign Commonwealth Office (FCO)[37] at the time of the fieldwork in 2013. The categories were arrived at through the researcher's physical assessment of the

[37]The FCO has an embargo on travel to many parts of the Niger Delta Region for safety and security reasons warranted by the kidnappings of foreigners, as well as influential indigenes and the general unrest in the Delta Region. Therefore, several conditions were placed on the fieldwork, such as location and ease of travel.

maps of the Niger Delta Region (Figures 4.15 and 5.1), which indicated that not all the communities were affected by the exploration activities however geographically they constituted the Niger Delta Region (Figure 4.13) because exploration activities are undertaken in parts of their State. Therefore, the two categories became:

a. Community A without oil and gas exploration activities
b. Community B with the exploration activities

The latter covered only one local government (Ibeno) in the case study area, whereas the former represented the remaining 30 local governments in relation to the case study area - Akwa Ibom State (Figure 4.18).

Silverman (2010) suggests the linking of methods, methodology and society. Furthermore, this research is conscious of the sensitivities and peculiarities of the predominantly rural area comprising 94% settlement with a population of less than 5000 (NDDC, 2006). Hence, the fieldwork challenges included considerations with regards to:

i. Sensitivities as a result of previous research, where communities had been inundated with questionnaires, documentaries, etc. with nothing tangible to show for it.
ii. The demographic distribution, which comprises highly vocal youths; twice as many as all the other age groups combined (*Figure of demo change 5.4.5).*
iii. The literacy level and unemployment and underemployment, with 43% holders of primary education and 13% tertiary.

This research accounted for the challenges and therefore, employed a methodology that made it easier for the respondents to focus on landscape issues. The methodology was of the interpretivist theoretical perspective. The fieldwork was guided by questions related to Steinitz's Framework Model (Steinitz, 1990a; Steinitz, 1995; Steinitz, 2012). Additionally, a variety of data collection tools appropriate to demographic groupings were employed, for instance interviews, focus group discussions, photo elicitation and transect walks. The Framework Model helped organise all the questions in such a way as to focus on landscape issues that was iterative. This meant that it could be approached from any of its six stages. This was found to be useful and appropriate in working with the indigenes.

9.2.3 The communities visions for future landscape change

a. Community B: Ibeno

This research refers to Abungu (2012) which demonstrates how as opposed to the Western world, "*it is difficult to discuss the tangible in the absence of the intangible in Africa*" as most often "*it is not the physical manifestation that matters but the meaning behind its forms and uses that is provided through its meanings, values and associated histories"* (p. 59). Though initially a little unsettling during the interviews, it was however not surprising when the researcher was told by all adult groups in community B that the first change driver in their vision for future landscapes was '*livelihood*', also revealed in Table 6.8. However, the analysis provided a clearer picture of the relationship between livelihood and their cultural landscape (Figure 6.13). The responses to the questions on landscape representation and process expressed how their mode of livelihood fashioned out their past landscapes from the village compounds to the village squares. Loss of livelihood has led to the fragmentation of their present cultural landscape, with village layouts distorted as indigenes sell their lands to in-migrants and immigrants, who erect structures and use open spaces contrary to local cultural environmental ethics. All this is an immense source of frustration.

This research therefore recalls Nassauer (1995) on how '*culture structures landscapes'* and landscape inculcates culture. The structuring of the cultural landscapes of rural communities in the Niger Delta Region signifies that the landscapes of community B are clearly being structured by livelihood and likewise, altered by loss of livelihood as well. Thus, landscape here is an agent of the change social systems and in further development of place. In addition it is the product of human labour, as pointed out in Mitchell (1998). It can further be seen in community B how strongly livelihood dictates the structures of cultural landscapes and how landscapes inculcate livelihood. Consequently, the vision for landscape change here is for the landscape to provide the community with a means of livelihood so that the community will sustain and shape their cultural landscape. The shape of future cultural landscapes is indicated by way of other change drivers, such as territoriality and rootedness, technology and infrastructure concerned with development.

The youths' and children's groups show most interest in nature and environmental aesthetics, as they appear to engage more physically with the landscape (Figure 6.6). This research however notes that environmental aesthetic is a change driver desired by the adults. The community leaders want their landscapes to be similar to Abuja, the capital of Nigeria. However, in discussing change drivers, there are realistic priorities for the present although the ultimate goal is to have a designed landscape befitting their status as revenue generators for the nation. The research demonstrates that though livelihood is highly emphasised in the new cultural landscapes, the community firmly rebukes the Federal Government and the multinational oil corporations. Furthermore, the community acknowledges that their future landscape visions will only be realised through good governance, power and institutional controls, as well as environmental justice.

b. Community A: Eket and Environs

The landscapes in this group do not have the exploration activities in them. This research identifies three landscape types at present as a result of multiple cultures in the community. Generally, all the landscape types appear to be in transition to modernisation and are influenced by globalisation. Nevertheless, findings for community A show how reducing hard labour is the main driver of present and future landscape change.

The traditional landscape consists of a good balance of nature and culture as settlements in rural areas are found in vast landscapes and not vice versa. It however lacks the modern amenities that reduce the hard labour and keep the youths in the community. Therefore, the desired change driver is mechanised farming and cottage industries, while an additional future change driver is related to the improvement of rural landscapes by provision of basic infrastructure.

The desired change driver for the transition landscape is to have better managed roads (access) and improved environmental management, in addition to basic infrastructure. This research notes that at a certain point this landscape type suggests a rural idyll. The youths have cottage industries for employment and roads to haul their farm produce from the villages and also transport the processed

food to outlets. This is achieved by the presence of democratic governance and its dividend.

The modernising landscape is the most challenging, seeing as it has lost its rural identity with many structures and element superimposed on traditional layouts. The change drivers for these landscape types are complex and are similar to those of peri-urban areas, given that most of them are close to the seats of governments. The change drivers include shelter or mass housing, employment, landscape planning and design, governance issues, such as bottom up participation, as well as management issues, for instance control of rural urban migration, refuse management, environmental sanitation etc.

9.2.4 The implication of landscape visions on the identified concepts and approaches

The research indicates that several of the concepts from the literature identified as appropriate for the sustainable landscape planning of the Delta Region were discarded due to various findings. One of the major findings is the identification of four different landscape types (8.2.1.C) within the case study area and how the offensive strategic orientation would not be appropriate for all four on account of their different needs. Each landscape type has factors to be considered, although these factors are not uniform. The offensive strategic orientation is still appropriate for the degradation and modernised landscape types. Additionally, the opportunistic and protective approaches are suggested respectively for the transitional and the traditional, as discussed in detail in Section 8.3.2.

The research suggests representing the five dimensions of the social, economic, environmental, and political and aesthetics in a ‘five ring approach (Figure 8.1), with each ring represented by a colour. However, the arrangement of the rings and how they connect differs from landscape type to landscape type depending on what values are to be considered to create the sustainable future landscape. It is also worth noting that some of the rings can stand alone if the dimension is working well in that landscape.

Findings on the dimensions of each future change driver suggest that the change driver could be a combination of more than a dimension; thus, for example it could be of a socio-economic or socio-environmental nature. Findings also suggest that

the more combinations of dimensions the more complex the landscape. Therefore, the degradation and the modernising landscapes were the most challenging. The absence of a dimension as a future change driver does not imply that it lacks relevance in the landscape change but might suggest that the dimension was working well in the landscape at that moment. Hence, the transition landscape type has good governance and the youths are engaged in the cottage industries; consequently, the political and economic dimensions appeared good at the time of the field study (Table 7.3). Nevertheless, they desire roads and infrastructure, in addition to education and a change in the rural mentality which were in the environmental/aesthetic and social dimension domains respectively (Details in Section 8.3.1).

9.3 Conceptualising sustainable future landscapes

Conceptualisation of the future landscape with the communities of the Region involves understanding collective community visions, in addition to those of the different landscape types.

The collective landscape vision as expressed by the community leadership is for the landscapes in the Niger Delta Region to exhibit that the nation's resources are undeniably derived from the Region. Hence they should be of the same or better quality as Abuja; the nation's capital city. They believe these can only be achieved through issues of power and control and therefore advocate resource control as past Federal Governments and present, as at the time of the fieldwork in 2013, have failed them and allowed multinational corporations to degrade their environments and plunge them into poverty.

The vision for future landscape change identified by the research with the communities focuses more on the communities' view of realistic change drivers that will impact on the quality of life and well-being of the indigenes and all members of the community. Therefore, in the degradation landscape type, the vision is for a landscape that enables livelihood. The landscape includes both land and water and is being polluted by oil and gas exploration activities. As a coastal community it is also subjected to impact from climate change. The waters are in creeks, lagoons and rivers consisting of a complex ecosystem and the land is lowland marshes of mud in the wetlands. The ecosystem is rich and delicate and

the landscape and waterscape hold the means of livelihood; therefore there is the need to clean and improve both the lands and the waters. Culling from the title of a book on Singapore's journey towards environmental and water sustainability, the landscapes/waterscapes need to be '*clean, green and blue'* once more (Tan *et al.*, 2009). Therefore, the strategic orientation here should be the offensive and environmental infrastructure and services are required. Additionally, the analysis of this research suggests multidisciplinary involvement engaging both substantive and procedural orientations and the specialist areas of marine spatial planning and terrestrial spatial planning, as detailed in Sections 8.4.1 and 8.4.2 could be extremely valuable. The landscapes should be '*clean, green and blue*' in both physical and metaphorical terms by eliminating pollution, utilising renewable energy and restoring the function of ecosystems.

The primary change drivers for the future landscapes of the other three landscape types in communities of Eket and Environs are also related to the productivity function of landscapes. Communities in the traditional landscape types yearn for mechanised farming while those in the transition types covet roads to enable transportation of their produce to markets as well as from rural areas. The rural-urban migration of people in the modernising type landscapes related to making a living from the productive landscapes of the urban areas. This relationship between food and landscape abounds in the literature where food and landscape are beginning to be of particular focus in research and policy in many countries (Herlin and Tellström; Renting *et al.*, 2009; Roe, 2014). This suggests that a significant message may be noted regarding the special meanings obtained from landscapes considered to be productive.

The communities are also settlements in vast landscapes. This research suggests that the key is connection and reconnection with the landscape to enact lost identity, meanings and sense of place, in addition to livelihood. The change drivers of the new cultural landscapes of each landscape type suggest the desire of a planned landscape in line with the thoughts of '*garden'* settlements and livelihoods*.'* These should be studied, planned and designed for and "*all imagination, resourcefulness, experience and skills to find cultural connections that provide ways to address contemporary material and psychological changes*" be employed (Roe, 2014, p. 251).

In the traditional landscape type the protective strategic orientation should be employed to create a new cultural landscape. With the new cultural landscape of the transition landscapes may best employ the opportunistic strategic orientation may best employed. The modernising landscape types are fast acquiring the character of peri-urban or the urban fringe and their landscapes are of '*shelter and livelihood' (Speak, 2014)* and therefore require *"planning theorists to seek alternative to normative planning"* by crossing '*borderlands'* so as to *"understand the fundamental difference in the everyday lives of different groups",* to enable "*socially just decisions where a community's needs do not match those of more affluent or dominant groups"* (Speak, 2012, p. 344).

9.4 Contribution to Knowledge

This PhD thesis has made a contribution to knowledge in its methodological approach to knowledge production and has developed its findings theoretically[38], as well as for application in practice. These contributions advance knowledge in the discipline, particularly in the area of conceptualising more sustainable future landscapes for the Niger Delta Region. The research thinking could also be applied to other Regions in Nigeria, as 50.4% of the population inhabit and work in a similar rural context (CIA, 2015). The research would therefore by extension be applicable in ordinary, threatened, derelict landscapes or landscapes of degradation pertaining to rural sub-Saharan Africa.

The contributions are presented below.

9.4.1 Methodological Approach

Presently with passions aroused with regards to landscape, Thompson (2005) identifies a gap in knowledge from stakeholder involvement in decision making in planning. The author saw a challenge for landscape architects and planners in finding

> "*Appropriate methodologies for engaging people, understanding their perceptions and responding to them*" and therefore posed these questions*… Are landscape professionals effective as they could be in helping people envision change and articulate responses to the change? What methods are appropriate to use? Are*

[38] " Theories may try to answer questions, offer accounts for what happens, how it ensues, and may aim to account for why it happened" (Charmaz K. 2014; p.228)

stakeholders readily able to engage in decision-making and the planning process, and are they eager and willing to do so?"(p. 111)

Similarly at the Transforming Practice workshop in October 2011 on creating positive visions for landscape change, one theme of current concern to a wide range of landscape disciplines was the challenging question:

'*How can we look through the eyes of others?' (The Royal Society of Edinburgh, 2011)*

This research is effectively responding to these gaps in knowledge. Consequently, it is assisting the communities of the Oil and Gas Region, by employing appropriate methods to enthusiastically engage in the planning process of envisioning the change drivers regarding their future landscapes.

The research also demonstrates stakeholders' (communities') readiness and capacity to engage in the planning process. In conceptualising future landscapes, the communities' responses have been effectively articulated for them, seeing as the landscapes have a way of being read and hence expressed, depending on literacy level, culture, age, sex, social class, etc. This is empowering the community to communicate '*through processes that increase their capacity to participate in decision making' and* is *'the landscape architectural equivalent of the advocacy and progressive planning traditions mentioned by* Crewe and Forsyth (2003, p. 46).

With this in mind, the research employs a transdisciplinary approach through bottom-up engagement of communities in Regions of landscape degradation, guided by questions on an appropriate framework (Steinitz Framework Model), which ensures the discussion focuses on envisioning the future landscape change and not the myriad of problems in the Niger Delta Region.

Despite safety and security challenges in the Niger Delta Region and the researcher being an insider-outsider from northern Nigeria, the research was conducted successfully in an area considered hostile and classed as a conflict zone by the FCO. As an insider-outsider, the research employed methods of data collection that were acceptable to the people. Indigenous ethics and protocols were followed to the letter and community leadership and elders were consulted at the onset. The community was briefed honestly on the aim of the research and the researcher was introduced properly. The researcher understood what preparation was required in such Regions with respect to personal safety and security, as well

as for others engaged with the study. The preparation included informing the Nigerian Military, who delegated the local command to organise an overt security operation with a plain clothed armed (hidden) security detail, a Hilux security vehicle and its driver. The communities to be visited were monitored daily and sometimes I was advised on alternative routes. I returned safely without being kidnapped or experiencing any unpleasant episode.

The fieldwork was also able to conform to the ethical requirements of the university, principally with regards to photo elicitation with the children's group and for this reason employed photo elicitation with the children and a few adults using ordinary simple digital cameras bought with memory cards. These were collected and processed and the cameras returned to the participants as souvenirs after the interviews. There was no record of the method being used in the Niger Delta Region. The children, their parents and their school were excited about the method. Additionally, interviews, focus group discussions and transect work were also employed successfully.

9.4.2 Theoretical contributions

The thesis demonstrates that conceptualising sustainable future landscapes of the Niger Delta Region has been successfully undertaken by landscape planning through its in-depth knowledge of the different nuances of landscape and sustainability, as well as the complex processes and constellation of driving forces acting on the landscape.

In order to achieve sustainable landscapes, the research reveals the role played by values in landscape grouped under economic, political, social and aesthetic dimensions and their interactions. These findings from the research further illustrated that landscape interventions indeed are only successful when the social dimensions are considered as well, thus reinforcing what is found in literature. It has also advanced the five dimensions diagrammatically through a "five ring approach", similar to the Olympic rings and has theorised on the interactions and overlaps. This further illustrates that the more complex the overlaps, the more challenging the landscape. This is exemplified by findings pertaining to the degradation and the modernising landscape types.

Regarding landscape change:

1. The study identifies the drivers of landscape change in the Region and the connection between oil and gas exploration and landscape fragmentation. The research demonstrates that oil spills do not directly lead to loss of livelihood but to the fragmentation of natural landscape (Figure 6.12). This controversial finding hinges on the fact that the in-migrants and immigrants are still able fish and take over the indigenes means of livelihood. However, the lack of finance and skills to continue fishing under the changed circumstances brought about by the oil spills and pollution is leading to loss of livelihood, to the in-migrants and immigrants.
2. In the relationship between society and landscapes, there appears to be the accumulation of values with age. Nevertheless, the focus on the landscape shifted with age to values of priority to gender, particularly in the latter ages.
3. The researcher identified that although the case study area is homogenous in terms of language and culture, there are four different landscape types dictated by factors such as the presence of oil and gas exploration activity, proximity to urban areas or local government headquarters, type of local governance and level of exposure to modernisation and infrastructure. The researcher is able to draw up the processes within each landscape type and also recognise the drivers of landscape change at various stages.
4. The study has also established that even in a polluted landscape the characteristics of the communities of place, identity and interest are similar to those identified in the literature.

9.4.3 Application to practice

The study has also established the importance of a bottom-up approach in conceptualising sustainable future landscapes. The relationship between the many constellations of forces driving the landscape change will be crucial to sustainable landscape planning.

The contribution to knowledge here lies in the findings illustrating the connection between landscape with livelihood in community B and production with landscape in community A. Thus, this explains the relationship between loss of livelihood and the changes caused to cultural landscapes and confirms that environmental

degradation leads to loss of livelihood in the Niger Delta Region. The drivers of landscape change in the landscape types of community A arise from the production capability of the landscape or in order to contribute to its production capacity.

It is worth noting that the government has attempted to improve livelihoods by using economic and policy planning. However, understanding the impact on the cultural landscape is crucial as "*the absence of lineage in landscape may thus be as important as exile from it"* (Rodwill 2008, cited in Thompson 2015) and that such disjunctions could uproot the community without their having to move.

In this research the communities' visions are therefore translated to application in practice. This therefore means that for the landscape to provide a livelihood and be productive, it has to be free of any land and water pollution, as well as not disregard contemporary challenges of climate change posed to coastal communities. Since past cultural landscapes have been lost or there is disconnection, the suggestions from the research is for the reconnection by way of new cultural landscapes that will consider the emerging concerns and new aspirations of communities that live there.

9.5 Potential for future research

9.5.1 Contributions to the Transforming Practice Symposium

The research was guided by researchers' and practitioners' concerns raised during the Transforming Practice Symposium (The Royal Society of Edinburgh, 2011). Various concerns with respect to the approaches and circumstances for creating landscape visions, as well as to power and contestation are addressed. Thus demonstrating that people do have the time, ability and skills to have a vision, provided one is enabled by the application of appropriate methods. The researcher also maps out drivers of landscape change and expresses the different ethical and moral drivers through the roles played by the Federal Government and the multinational oil corporations in the Niger Delta Region. The communities' ability to determine landscape visions is illustrated, the assignment to deliver the visions is however not within their capacity but those of landscape professionals, who need to articulate the visions for the various arms of government to enable implementation.

An additional issue raised by the symposium is on women's roles in envisioning a different landscape. The research was conducted based on demographic groupings. It however indicates differences regarding each groups focus (Figure 6.7), though the overall vision was similar. On whether visions of landscape change always have to be positive or there was room for dystopia, the research recommends that UNESCO should list a number of the landscape types under the category 'cultural landscapes organically evolved but fast becoming a relic', therefore providing examples of what landscapes of such relevance ought not to be. Due to the dwindling income from oil revenue because of its fall in the world market by 2015, the researcher cannot foresee the availability of resources in the very near future for remediation of all the landscape degraded by oil spills. Hence, the researcher suggested making room for the landscape of dystopia in global landscape fora.

9.5.2 Areas for further research

Through the conceptualisation of sustainable future landscapes with the community, a vision to plan for a clean environment, climate change and new cultural landscapes is identified. Therefore, the landscape is presented in all its nuances in relation to policy, planning and research and would be seen to open up a conceptual map as well as an advocacy map which lays out the components for sustainable future landscapes of the Niger Delta Region. This would therefore be exceedingly valuable for administrators, landscape planning and design as well as disciplines that could contribute to developing the concept either through policy, research (both substantive and procedural) or through practice (marine spatial planning). Further research is required to identify and address the biggest challenges with regards to "*planning for landscape problems in the physical environment, as well as in our culture in education, research and the profession or to sectoral thinking in society*" (Sarlov Herlin, 2004, pp. 410-411). The researcher exposes the transdisciplinary nature of the enquiry and hence, the emphasis on high integration and a new way of approaching problems in the Niger Delta Region; consequently challenging conventional thinking even more.

9.6 Research Limitations

The case study area only represents the landscapes of the offshore oil and gas exploration activities. Although it has communities without exploration activities, the entire case study area is only in one of the nine states in the oil and gas exploration Region. Landscapes with on shore oil exploration consisting of oil wells or pipelines passing through their territories may provide additional landscape types and additional change drivers for landscape types.

At the methodological level, to fulfil Newcastle University's ethical requirements in relation to conducting research with children, the research limited itself to the children in a private school, though the selection of pupils satisfied all community types. The protocol of consent was more straightforward as all parents and the school management understood the international ethics. Parents with children in local government schools were willing to allow their wards to participate but did not comprehend why they had to sign a paper whose implication was not so apparent to them. The researcher thought it was a shame not to be able to discover what the visions of that group of children might have been because they engaged with the landscape in a particularly productive way after school.

9.7 Final Summation

This research has been able to conceptualise the sustainable future landscape with two categories of communities in the Oil and Gas exploration Region. The communities represent those with exploration activities and those without. Conclusions are drawn on the overall vision based on community category, to be landscape for livelihood and productive landscapes respectively. In the former and the traditional landscape type of the latter, livelihood is eked out of the land by the majority, while in the two landscape types of the latter, the landscape mostly provides the ability to make a livelihood. As explained in the literature, there could be multiple cultures in a particular location, and moreover, the research similarly exhibits the presence of four landscape types in the case study area.

Though livelihood is the common word in both communities' visions, livelihood encompasses five assets, while landscape is also concerned with the connections of people and nature. Therefore, the implication of the communities' visions for future landscape change can be articulated to mean a clean landscape on land,

sea and air; sustainable in spite of the impact of climate change and of relevance to their culture and the future of generations to come, while enabling them to make a living from or on it.

The research is also seen to serve as both a conceptual map for the communities' visions and an advocacy map assisting the community to articulate their visions.

In the process of the research, analysis provided findings that were theorised, principally in the five dimensions to more sustainable landscape planning, to how the presence of all the five dimensions interacting may suggest more challenges for the landscape type. It also noted that the absence of a dimension as a change driver might suggest that it was working well in that landscape at that point in time. The general vision has transdisciplinary implications for future research which could enable advancing the conceptualisation further.

9.8 References

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9.9 List of Appendices

Appendix A

Letters of introduction from

Newcastle University,
Ahmadu Bello University
Ministry of Niger Delta Affairs
Brief on Research to Community Elders

Appendix B

Children participants' information sheet
Guide to photo elicitation with Children

Appendix C

Participants' information sheet for adults

Appendix D

List of fieldwork interviews

Appendix E

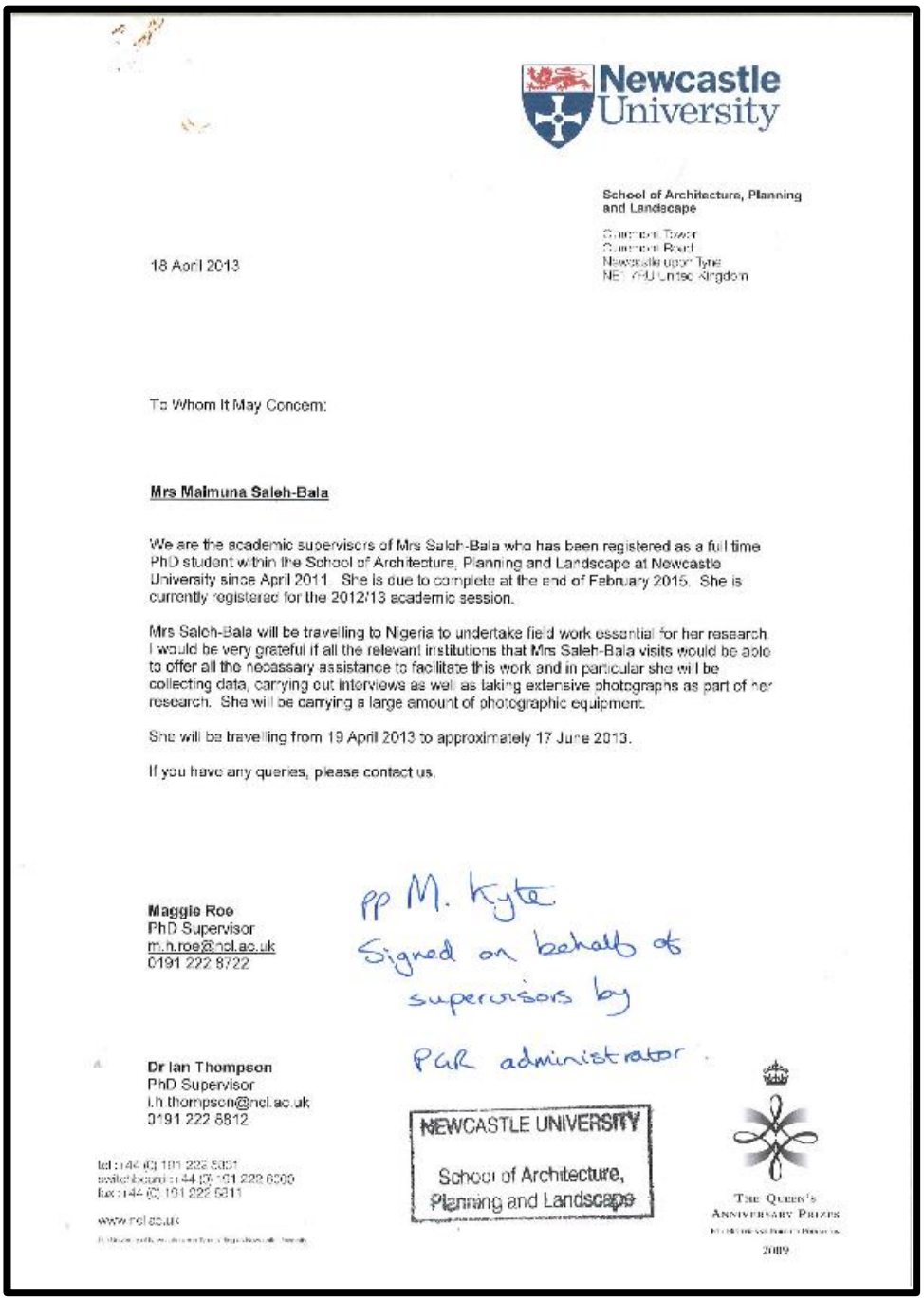
Informed consent form for

Adults
Children

Appendix F

List of signed consents forms

Appendix A



Newcastle University

School of Architecture, Planning and Landscape

Claremont Tower
Claremont Road
Newcastle upon Tyne
NE1 7RU United Kingdom

18 April 2013

To Whom It May Concern:

Mrs Maimuna Saleh-Bala

We are the academic supervisors of Mrs Saleh-Bala who has been registered as a full time PhD student within the School of Architecture, Planning and Landscape at Newcastle University since April 2011. She is due to complete at the end of February 2015. She is currently registered for the 2012/13 academic session.

Mrs Saleh-Bala will be travelling to Nigeria to undertake field work essential for her research. I would be very grateful if all the relevant institutions that Mrs Saleh-Bala visits would be able to offer all the necessary assistance to facilitate this work and in particular she will be collecting data, carrying out interviews as well as taking extensive photographs as part of her research. She will be carrying a large amount of photographic equipment.

She will be travelling from 19 April 2013 to approximately 17 June 2013.

If you have any queries, please contact us.

pp M. Kyte
Signed on behalf of supervisors by PGR administrator

Maggie Roe
PhD Supervisor
m.h.roe@ncl.ac.uk
0191 222 8722

Dr Ian Thompson
PhD Supervisor
i.h.thompson@ncl.ac.uk
0191 222 6812

tel: +44 (0) 191 222 6301
switchboard: +44 (0) 191 222 6000
fax: +44 (0) 191 222 6011

www.ncl.ac.uk

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DEPARTMENT OF ARCHITECTURE
AHMADU BELLO UNIVERSITY, ZARIA
VICE CHANCELLOR: PROFESSOR ABDULLAHI MUSTAPHA:Bsc (Hons) Pharm (A.B.U.), Ph.D. (London), FPSN.

Ref: A/2.27

Date: 18th April 2013

TO WHOM IT MAY CONCERN

Dear Sir/Madam

This is to introduce Arc Maimuna Saleh-Bala, a lecturer and former Coordinator of Landscape Architecture Programme of the Department of Architecture at Ahmadu Bello University Zaria. She is currently on a PhD Programme at University of Newcastle in the United Kingdom.

Arc Maimuna is on Field Work, working on community participation in visioning future landscape change. Her Research is intended to contribute in the improvement of academic contents and hence practice of Landscape planning for Oil and Gas Regions of Nigeria.

The research is purely for academic purpose and all ethics of research will be observed. Please accord her all necessary support and assistance

Best Regards

Dr. M.D Ahmed
Head of Department

FACULTY OF ENVIRONMENTAL DESIGN
DEPARTMENT OF ARCHITECTURE
Head: Dr. M.D. Ahmed

Telephone: +2348034507574
e-mail: architecture@abu.edu.ng

Office of the Hon. Minister of State

FEDERAL MINISTRY OF NIGER DELTA AFFAIRS

10th Floor, Federal Secretariat Complex, Phase 1, Shehu Shagari Way, Abuja.

Ref. No. MNDAS/Intro/66

28 May, 2013

Dr. Seidu O. Mohammed,
Director-General/Chief Executive,
National Space Research Dev. Agency,
Obasanjo Space Centre,
Umaru Musa Yar'Adua Express Way,
P. M. B. 437, Garki,
Abuja.

REQUEST FOR ASSISTANCE

Reference my discussion with the Honourable Minister of Science & Technology, Prof. Ewa regarding arial **Photographs/Maps of Akwa Ibom State** (Uyo/Eket/Ibeno) over the years.

2. I would appreciate any kind assistance whichever way possible towards **Arc. (Mrs) Maimuna Saleh Bala**, the bearer of this letter.

3. Please accept the assurances of my best regards.

Arc. Darius D. Ishaku, FNIA
Honourable Minister of State

DSSA
Ag DMP, IT & Dm
Pls Support bearer on her project
03/06/13

Brief on Research to the Elders

Scholars of the Petroleum Technology Development Fund (PTDF) and are implored to undertake research related to oil and gas. I am in landscape planning and therefore looking at the degraded landscape of the Niger Delta Region of Nigeria and trying to find inputs from the rural community for creating a vision for landscape change Trans disciplinary. My intention is to identify what the community values about its landscape through the meanings the landscapes had in the past and at present and what it would like to have changed and what should drive the future landscape change. I intend to engage the community in a participatory landscape research, employing the bottom-up approach to envisioning a future landscape and thereafter discuss my findings and implications for the region's landscape planning, policy and for education.

I propose to use two rural communities in the oil exploration region of the Niger Delta Region of Nigeria. One of the communities with oil spillage within its environment and the other has no oil spillage. The research shall use purposive sampling while snowballing for the landscape history. Sampling for range will be used for the interviews, photo-elicitations and focus groups. The table 1.0 below shows summary of my methods of data collection and sample categorisation.

Table 1.0 Overview *of multiple Methods of data collection proposed for a community*

Methods of Data Collection	*Target Population*	*Data Type*	*Sample size*
Landscape History	Elders: Male and Female	Audio recordings Transcripts Transect walk	2 participants through snowballing
Photo-elicitation Individual Interviews Focus Group	Children Youth	Photographs of landscape Audio recording Transcripts Landscape Mapping	a. 7 children (boys and girls) ages 9-14 b. 7 youths ages 15 - 20
Semi -structured interview	Expert Insiders	Audio recordings Transcripts	2 participants
Semi-structured Interview Focus group	Males	Audio recordings Transcripts Landscape Mapping	2 participants 5 participants
Semi-structured Interview Focus group	Females	Audio recordings Transcripts Landscape Mapping	2 participants 5 participants
		SUB TOTAL	32 participants per community
		TOTAL FOR 2 COMMUNITIES	**64 PARTICIPANTS**

Appendix B

Newcastle University, NE1 7RU Newcastle Upon Tyne
School of Architecture, Planning and Landscape

GUIDE TO PHOTO ELICITATION WITH CHILDREN

PART A: INSTRUCTIONS TO CHILDREN

You have a week from today to do the following;

1. Use the camera given to you to take some photographs of the places that are important to you in your community. They could for example be important to your living, playing or working. These photographs should be within your communities but you can also take of locations outside but close to your communities.
2. Take another set of photographs again of places in your community you would like to change. These could be places for example you do not like at all or you will like to see improved.

   PLEASE note that the pictures you choose to take could be of places as simple as your backyard, playground, churchyard and market place or of objects such as statues or of events such as festivals or any place that has been meaningful to you. These photographs should relate to places you have positive feelings for, that means places you like and of places you have negative feelings for, meaning places that bother you or would just like to have changed.

3. Take no more than 21 photographs or just a handful that are important to express your positive and negative feelings. Return the camera to have the photographs printed. A week after I will have a chat with you about the pictures you took.

   Please note that though you and your friends can go to the photo taking sessions together you may not necessarily like or dislike the same place. Therefore let your selection of what you take a photograph of be your decision.

Guidelines to Photo-Elicitation with Children

Newcastle University, NE1 7RU Newcastle Upon Tyne
School of Architecture, Planning and Landscape

PART B: INTERVIEW GUIDE FOR RESEARCHER

BUILDING TRUST AND CONFIDENCE

4. Introduce myself as a PhD researcher from the school of Architecture, Planning and Landscape of Newcastle University and explain what researchers do.
    a. I shall ask if they know what Architects, Landscape Architects and Planners do
    b. Ask them their ages and note their sex.
    c. Find out where they go to school or what they do.
    d. What they will like to become or do in future
    e. Where they will like to live in future

The intention here, in addition to building trust and confidence is to gain an understanding of the context (the children and their worlds).

THE PHOTO-ELICITATION INTERVIEW GUIDE

5. Allow the child to identify the pictures with positive meanings and those with negative and then discuss each picture. The following could act as guide.
    a. Where is this place?
    b. What do you like/not like about this place?
    c. Why is this place important to you?
    d. If you could change this place what could you change and why
    e. If you are to take a photograph of one place where could it be and why?
    f. Where would you like to study, work, live or visit in the future and why
    g. If in the locality why if not why
    h. Select three photographs that best describe your special places and explain why

Notes: Interview guides (a) and (b) will prompt the children's representation and evaluation of the landscape; (c) will identify criteria of feelings, function and appearance through factors such as emotions, culture, aesthetics, functions, interactions, politics, ecology and physical. Guide (d) could prompt identifying the child's problem with the place and what he/she thinks it should be. Guide (e-g) could explore concepts, dreams, demands and desires for the future landscape.

INTERVIEW SUMMARY

6. The children and I will review the information at the end of each interview to ensure correct representation of their ideas and to identify themes around values, expectations and future landscape visions.

Newcastle University

Sustainable Future Landscapes for Communities of the Niger Delta Region in Nigeria

Children Participants Information Sheet

You are invited to take part in a research study on creating Future Landscape Visions for Communities of the Niger Delta Region in Nigeria. Please ask questions where you need things to be made clearer and please note that you are free to withdraw from participation at any point if you so wish.

Thank you for listening.

- **Who will conduct the research?**
  Maimuna Saleh-Bala of the School of Architecture, Planning and Landscape, Newcastle University, Newcastle-upon-Tyne, United Kingdom
- **Title of the Research**
  Sustainable Future Landscapes for communities of the Niger Delta Region in Nigeria
- **Aim of the Research**
  The overall aim of this research is to identify future landscape visions with inputs from the community of the Niger Delta Region. This could be through understanding meanings that places have for you and kind of places you would want to see in your community landscape in the future. I would like to use this information in landscape planning for your region and landscape architecture education so as to make better places for rural communities.
- **Why have you been chosen?**
  You have been chosen because you are a member of your community with valuable indigenous knowledge that could inform a better future landscape vision and I would like to elicit such views from your age group in the community.
- **What would I be asked to do if I took part?**
  You would be asked to participate in a photo-elicitation interview or for group discussion for approximately an hour and half. You will not have to fill any questionnaire however you will need to provide your age, sex, whether or not you are a student and at what level and also how long you have lived in the community. You will be given a digital camera if you belong to the children group. You will use this to take pictures of landscapes which will be used for the interview later. You will be briefed on how to use the camera and where and when to return it. You will be advised on what to photograph and where not to photograph for safety reasons and privacy. The camera will be yours to keep at the successful completion of the research but all photographs for the research will be deleted from the camera. You will also be asked to grant me permission for copyright of the photographs of the landscapes you took.

Appendix C

Newcastle University

Sustainable Future Landscapes for Communities of the Niger Delta Region in Nigeria

Participant Information Sheet

You are being invited to take part in a research study on Sustainable Future Landscapes for Communities of the Niger Delta Region in Nigeria. Pease take time to read the following information carefully as it explains what the research is about and what it might involve. You are free to discuss it with others should you wish. You are also implored to ask where you need things to be made clearer or where you require additional information. Please take time on your decision to participate or not to Participate.

Thank you for reading this.

- **Who will conduct the research?**
  Maimuna Saleh-Bala of the School of Architecture, Planning and Landscape, Newcastle University, Newcastle-upon-Tyne, United Kingdom
- **Title of the Research**
  Sustainable Future Landscapes for communities of the Niger Delta Region in Nigeria
- **Aim of the Research**
  The overall aim of the research is to identify future landscape visions from the community that could inform landscape planning, policy and education. This could be through understanding meanings that places had for you in the past and at present and kind of places you would want to see in your community in the future.
- **Why have I been chosen?**
  You have been chosen because you are a valuable member of your community and I would like to elicit views from different age groups in the community.
- **What would I be asked to do if I took part?**
  You would be asked to either participate in an interview, photo-elicitation discussion for approximately an hour or two hours for focus group. You will not have to fill any questionnaire however you will need to provide your age, sex, occupation and how long you have lived in the community.
- **What happens to the data collected?**
  All information that is collected about you during the course of the research will be kept strictly confidential. In addition, any details which potentially could identify you will also be removed or changed.
  My academic supervisors will have access to the transcripts of the survey, but I will be the only person to have access to the original recordings of the interview and your consent form. Your participation in this study will not be discussed with other interviewees. Your name will not be used and if a name is required in the research yours will be changed. I will

ensure that your involvement remains entirely confidential and anonymous. I am not under an obligation to report anything you say that could be defined as illegal.

- **What happens if I do not want to take part or change my mind?**
  The decision whether to take part or not is yours. If you do decide to take part you will be given this information sheet to keep and asked to sign a consent form. If you decide not to take part, you are still free to withdraw at any time without giving a reason and without detriment to yourself.
- **Will the outcomes for this study be published?**
  The findings of this research will be used in my PhD thesis. The material will be presented at academic and professional conferences and in academic journals. In addition, a summary of what was uncovered will be presented as a debriefing report to the community leader and also made available on the research website once the study has been concluded. Anonymity and confidentiality will still be in place in all cases.

Appendix D

FIELDWORK INTERVIEWS/ ACTIVITIES

S/NO	DATE	LOCATIONS	ACTIVITIES	START TIME	STOP TIME	THEME
1	4/30/2013	AKWA IBOM STATE UNIVERSITY	INTERVIEW WITH FOCAL GROUP (EDUCATED YOUTH)	12:28 PM	1:43 PM	
2	5/2/2013	EKET LG, AKWA IBOM STATE	INTERVIEW WITH CHIEF	10:22 AM	10:33 AM	
3	5/2/2013	EKET LG, AKWA IBOM STATE	INTERVIEW WITH CHIEF	10:34 AM	10:59 AM	CONTINUATION
4	5/2/2013	EKET LG, AKWA IBOM STATE	INTERVIEW WITH CHIEF	11:01 AM	11:14 AM	CONTINUATION
5	5/3/2013	PEGASUS SCH EKET, AKWA IBOM STAE	INTERVIEW WITH CHILDREN AND YOUTH	2:34 PM	3:01 PM	
6	5/3/2013	PEGASUS SCH EKET, AKWA IBOM STAE	INTERVIEW WITH CHILDREN AND YOUTH	3:03 PM	3:04 PM	APPRECIATION
7	5/3/2013	EKET LG COUNCIL HALL, AKWA IBOM STATE	INTERVIEW WITH WOMEN GROUP, CHIEFTENCY HOLDERS	3:37 PM	4:00 PM	
8	5/5/2013	CALABAR	INTERVIEW WITH MRS. M	8:01 PM	8:59 PM	
9	5/5/2013	CALABAR	INTERVIEW WITH MRS. M	8:59 PM	8:59 PM	
10	5/6/2013	AKWA IBOM STATE UNIVERSITY	INTERVIEW WITH FOCAL GROUP (EDUCATED YOUTH)	1:13 PM	2:29 PM	SUSTAINABLE DEVELOPMENT
11	5/6/2013	ETIM UYO LG AKWA IBOM STATE	INTERVIEW WITH FEMALE	6:12 PM	6:38 PM	
12	5/7/2013	EKET LG, AKWA IBOM STATE	INTERVIEW WITH WIVES OF VILLAGE CHIEFS	10:02 AM	11:48 AM	
13	5/7/2013	EKET LG, AKWA IBOM STATE	INTERVIEW WITH CHIEF'S WIFE	12:21 PM	12:35 PM	
14	5/7/2013	EKET LG, AKWA IBOM STATE	INTERVIEW WITH CHIEF (SOME PART WITH THE WIFE)	12:36 PM	12:54 PM	
15	5/7/2013	EKET LG, AKWA IBOM STATE	INTERVIEW WITH CHIEF	12:58 PM	1:12 PM	
16	5/7/2013	EKET LG, AKWA IBOM STATE	INTERVIEW WITH CHIEF	1:14 PM	1:23 PM	
17	5/8/2013	ETOI, UYO LG AKWA IBOM STATE	INTERVIEW WITH MR. AND MRS.	11:14 AM	11:16 AM	
18	5/8/2013	ETOI, UYO LG AKWA IBOM STATE	INTERVIEW WITH MR. AND MRS.	11:17 AM	12:24 PM	
19	5/8/2013	ETOI, UYO LG AKWA IBOM STATE	INTERVIEW WITH MR. AND MRS	12:29 PM	12:37 PM	
20	5/8/2013	ETOI, UYO LG AKWA IBOM STATE	INTERVIEW WITH MR. AND MRS.	12:39 PM	12:41 PM	
21	5/9/2013	PEGASUS SCHOOL EKET, AKWA IBOM STAE	INTERVIEW WITH THE VICE PRINCIPAL PEGASUS SCHOOL	12:00 PM	12:12 PM	METHOD FOR SELECTING STUDENTS
22	5/9/2013	PEGASUS SCHOOL EKET, AKWA IBOM STAE	TO COLLECT CAMERAS FROM PEGASUS SCH STUDENTS			
23	5/10/2013	AKWA IBOM STATE LIBRARY, UYO	LITERATURE SEARCH			
24	5/10/2013	UNIVERSITY OF UYO LIBRARY, AKWA IBOM	LITERATURE SEARCH			
25	5/10/2013	PHOTO LAB UYO, AKWA IBOM STATE	TO DEVELOP THE PICTURES FROM PEGASUS SCH. STUDENTS			
26	5/11/2013	EKET LG, AKWA IBOM STATE	TO COLLECT CAMERA FROM WIVES OF VILLAGE CHIEFS.			
27	5/12/2013	ITIAM ETOI, UYO AKWA IBOM STATE	INTERVIEW WITH WOMEN AND YOUTH GROUP	8:40 AM	9:22 AM	OPEN SPACES
28	5/12/2013	RURAL AREA, UYO AKWA IBOM STATE	TRANSECT WALK WITH MR. P	9:37 AM	10:52 AM	OPEN SPACES

FIELDWORK INTERVIEWS/ ACTIVITIES

29	5/14/2013	IBENO LG, AKWA IBOM STATE	INTERVIEW WITH MRS I.	12:10 PM	12:26 PM	
30	5/14/2013	IBENO LG, AKWA IBOM STATE	FARMILIARAZATION VISIT TO THE PARAMOUNT RULER	12:26 PM	1:56 PM	
31	5/14/2013	PEGASUS SCH EKET, AKWA IBOM STATE	INTERVIEW WITH CHILDREN FEMALE AND MALE	2:43 PM	3:21 PM	PHOTO ELICITATION INTERVIEW
32	5/14/2013	PEGASUS SCH EKET, AKWA IBOM STAE	INTERVIEW WITH CHILD MALE	3:32 PM	4:10 PM	PHOTO ELICITATION INTERVIEW
33	5/15/2013	PEGASUS SCH EKET, AKWA IBOM STATE	INTERVIEW WITH CHILD FEMALE	2:46 PM	3:26 PM	PHOTO ELICITATION INTERVIEW
34	5/15/2013	PEGASUS SCH EKET, AKWA IBOM STATE	INTERVIEW WITH CHILD FEMALE	3:24 PM	3:48 PM	PHOTO ELICITATION INTERVIEW
35	5/15/2013	PEGASUS SCH EKET, AKWA IBOM STATE	INTERVIEW WITH CHILD MALE	3:53 PM	4:11 PM	PHOTO ELICITATION INTERVIEW
36	5/15/2013	ONNA LG, AKWA IBOM STATE	INTERVIEW WITH VILLAGERS	12:25 PM	1:31 PM	PHOTO ELICITATION INTERVIEW
38	5/16/2013	ETOI LG AKWA IBOM STATE	INTERVIEW WITH DAUGHTER AND HER MOTHER	8:14 AM	8:48 AM	
39	5/16/2013	ETOI LG AKWA IBOM STATE	INTERVIEW WITH PARTICIPANT'S SPOUSE	9:01 AM	10:21 AM	
40	5/16/2013	PEGASUS SCH EKET, AKWA IBOM STATE	INTERVIEW WITH CHILD FEMALE	4:03 PM	4:16 PM	
41	5/17/2013	AKWA IBOM STATE e-LIBRARY, UYO	FOR LITERATURE SEARCH AND REGISTRATION WITH THE LIBRARY			
42	5/18/2013	IBENO LG, AKWA IBOM STATE	INTERVIEW WITH THE PARAMOUNT RULER AND LIUETENATS	10:31 AM	11:33 AM	
43	5/18/2013	IBENO LG, AKWA IBOM STATE	INTERVIEW WITH A VILLAGE WOMAN	12:54 PM	1:04 PM	
44	5/18/2013	IBENO LG, AKWA IBOM STATE	INTERVIEW WITH A LADY AND JEN	1:06 PM	2:06 PM	
45	5/19/2013	MOBILE BEACH, IBENO LG, AKWA IBOM STATE	FOR RECREATION	4:30 PM		
46	5/19/2013	IBENO LG, AKWA IBOM STATE	INTERVIEW WITH HONORABLE	6:44 PM	7:24 PM	
47	5/21/2013	IWUO-OKPOM, IBENO LG, AKWA IBOM STATE	INTERVIEW WITH OBONG	2:21 PM	3:06 PM	PHYSICAL LANDSCAPE
48	5/22/2013	UPENIKAN, IBENO LG, AKWA IBOM STATE	INTERVIEW WITH A YOUTH	5:38 PM	5:47 PM	
49	5/22/2013	UPENIKAN, IBENO LG, AKWA IBOM STATE	INTERVIEW WITH A MARKET WOMAN	5:53 PM	6:07 PM	
50	5/23/2013	FISHMEN VILLAGE UPENIKAN, IBENO LG, AKWA IBOM STATE	INTERVIEW WITH CHAIRMAN	6:15 PM	6:29 PM	
51	5/23/2013	FISHMEN VILLAGE UPENIKAN, IBENO LG, AKWA IBOM STATE	INTERVIEW WITH YOUTH	6:35 PM	6:51 PM	

Appendix E

Newcastle University

Sustainable Future Landscapes for Communities in the Niger Delta Region

Informed Consent Form

Please tick as appropriate

1.	I have read and understood the information about the project, as provided in the Information Sheet dated 08-05-13.	✓
2.	I have been given the opportunity to ask questions about the project and my participation.	✓
3.	I voluntarily agree to participate in the project.	✓
4.	I understand I can withdraw at any time without giving reasons and that I will not be penalised for withdrawing nor will I be questioned on why I have withdrawn.	✓
5.	The procedures regarding confidentiality have been clearly explained (e.g. use of names, pseudonyms, anonymity of data, etc.) to me.	✓
6.	The use of the data in research, publications, sharing and archiving has been explained to me.	✓
7.	I understand that other researchers will have access to this data only if they agree to preserve the confidentiality of the data and if they agree to the terms I have specified in this form.	✓
8..	I, along with the Researcher, agree to sign and date this informed consent form.	✓

Participant:

Bilfred Ejiong — Name of Participant; Signature; 08-05-13, Date

Ekpene Ukim - Urua; Ikot Ebia-Ugo LGA.

Researcher:

Mahmuda Saleh-Bala — Name of Researcher; Signature; 8TH MAY 2013, Date

Page 1

Newcastle University

Pegasus Schools, Eket
E.T. Tombush (Mrs)
Schools Administrator

Sustainable Future Landscapes for Communities in the Niger Delta Region

Informed Consent Form (Children & Youth)

Please tick as appropriate

1.	I have read and understood the information about the project, as provided in the Information Sheet dated 3rd May, 2013	✓
2.	I have been given the opportunity to ask questions about the project and my participation.	✓
3.	I voluntarily agree to participate in the project.	✓
4.	I understand I can withdraw at any time without giving reasons and that I will not be penalised for withdrawing nor will I be questioned on why I have withdrawn.	✓
5.	The procedures regarding confidentiality have been clearly explained (e.g. use of names, pseudonyms, anonymity of data, etc.) to me.	✓
6.	The use of the data in research, publications, sharing and archiving has been explained to me.	✓
7.	I understand that other researchers will have access to this data only if they agree to preserve the confidentiality of the data and if they agree to the terms I have specified in this form.	✓
8..	I, along with the Researcher, agree to sign and date this informed consent form.	✓

Participant:

Name of Participant _____ Signature _____ Date 16th May, 2013

Age 14years **Village/Town** Ikot Obok **LG** Nsit Ibom

Researcher:

MAIMUNA SALEH-BALA _____ 16TH MAY 2013

Name of Researcher Signature Date

Appendix F

S/N	DATE	VILLAGE	LOCAL GOVT	SEX	AGE
1	4/30/2013	MBIAOBONG IKOT ETIM	INI	MALE	ADULT
2	4/30/2013	ASONG	MKPAT ENIN	MALE	ADULT
3	4/30/2013	IKOT-UDO-OTTO	ETINAN	MALE	ADULT
4	4/30/2013	ESANG	URUAN	MALE	ADULT
5	4/30/2013	UDUNG UKO	ORON	MALE	ADULT
6	4/30/2013	IKOT ANTEM	IKONO	MALE	ADULT
7	4/30/2013		IKONO	MALE	ADULT
8	5/6/2013			MALE	ADULT
9	5/6/2013			MALE	ADULT
10	5/6/2013	URWE OBONG	ABAK	MALE	ADULT
11	5/6/2013	MBIAKPA IBAKESI	INI	MALE	ADULT
12	5/6/2013		ESSIEN UDUM	MALE	ADULT
13	5/6/2013	IKOT UDOBIA	ETINAN	FEMALE	ADULT
14	5/7/2013	IDUA	EKET	FEMALE	ADULT
15	5/7/2013	EKPENE UKPA	EKET	FEMALE	ADULT
16	5/8/2013	OKON	EKET	FEMALE	ADULT
17	5/8/2013	ITIAM ETIO	UYO	MALE	ADULT
18	5/8/2013	ITIAM ETIO	UYO	FEMALE	ADULT
19	5/9/2013	IKOT AKPA ENO	NSIT UBIUM	FEMALE	51yrs
20	5/10/2013	USUNG INYANG	EKET	FEMALE	ADULT
21	5/10/2013	UKWO/ODIOHO	EKET	FEMALE	ADULT
22	5/12/2013	ITIAM ETIO	UYO	FEMALE	ADULT
23	5/12/2013	ITIAM ETIO	UYO	MALE	ADULT
24	5/12/2013	ITIAM ETIO	UYO	FEMALE	ADULT
25	5/12/2013	ITIAM ETIO	UYO	FEMALE	ADULT
26	5/12/2013	MBO ORON	EKET	FEMALE	ADULT
27	5/12/2013	ITIAM ETIO	UYO	FEMALE	ADULT
28	5/12/2013	ITIAM ETIO	UYO	MALE	ADULT
29	5/14/2013	UDUNG IDOIDUA	EKET	MALE	11yrs
30	5/14/2013		MBO	MALE	16yrs
31	5/14/2013	MPKOK	ONNA	FEMALE	9yrs
32	5/15/2013		IBENO	FEMALE	17yrs
33	5/15/2013	EKET	EKET	FEMALE	12yrs
34	5/15/2013		ONNA	MALE	13yrs
35	5/16/2013	IKOT OBOK	NSIT IBOM	FEMALE	14yrs
36	5/21/2013	ESUK IKIM EKEME	IBENO	MALE	ADULT
37	5/21/2013	IWUO-OKPOM	IBENO	MALE	ADULT
38	5/22/2013	UPENIKAN	IBENO	FEMALE	ADULT
39	5/23/2013	UPENIKAN	IBENO	MALE	ADULT
40	5/23/2013	UPENIKAN	IBENO	MALE	19yrs